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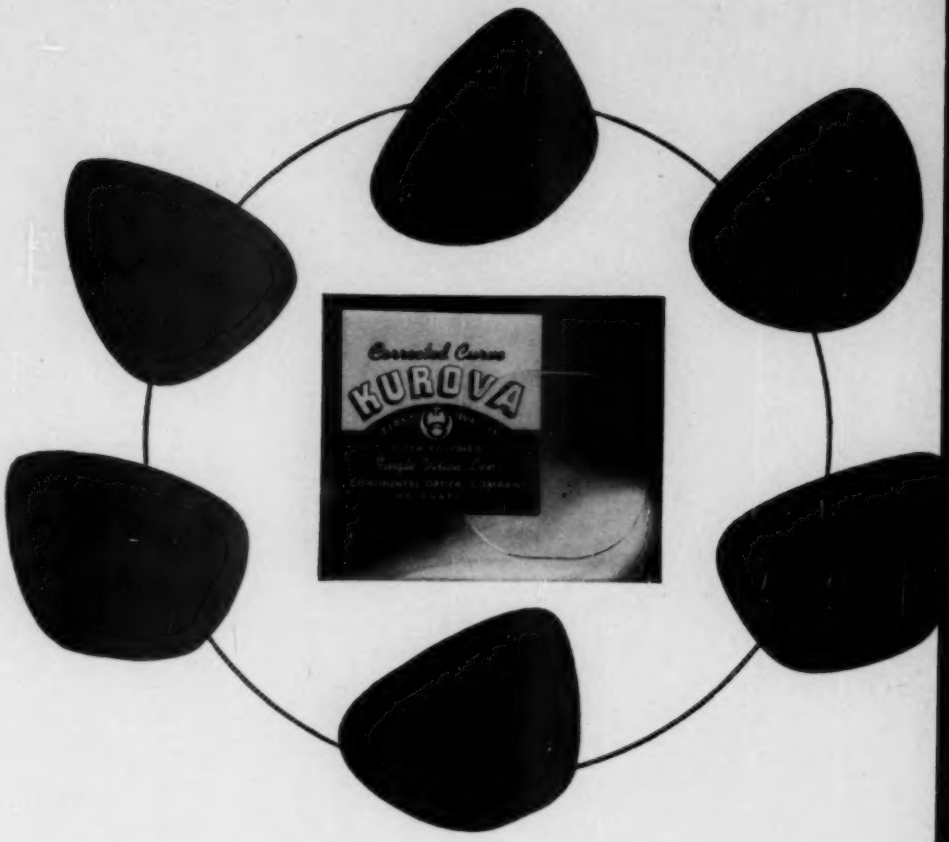

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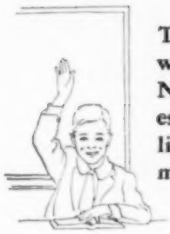
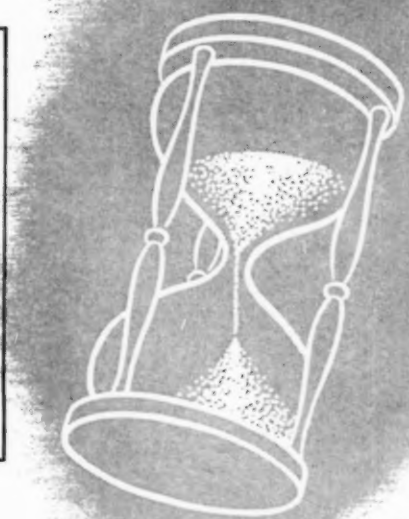
Natural unaided vision is best



The child learns to see without encumbrance. Natural seeing habits are established, which through life progressively become more difficult to alter.

Single-vision lenses provide correction for refractive error

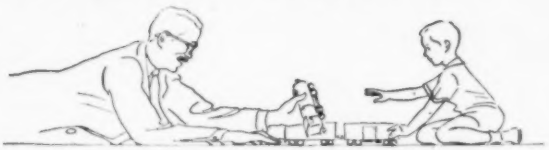
Unfortunately, few eyes are without refractive error. When such error is great enough to handicap visual ability, corrective lenses provide assistance needed for improved vision. The benefits of increased visual performance are so great that most people readily adapt their seeing habits to the use of single-vision correction.



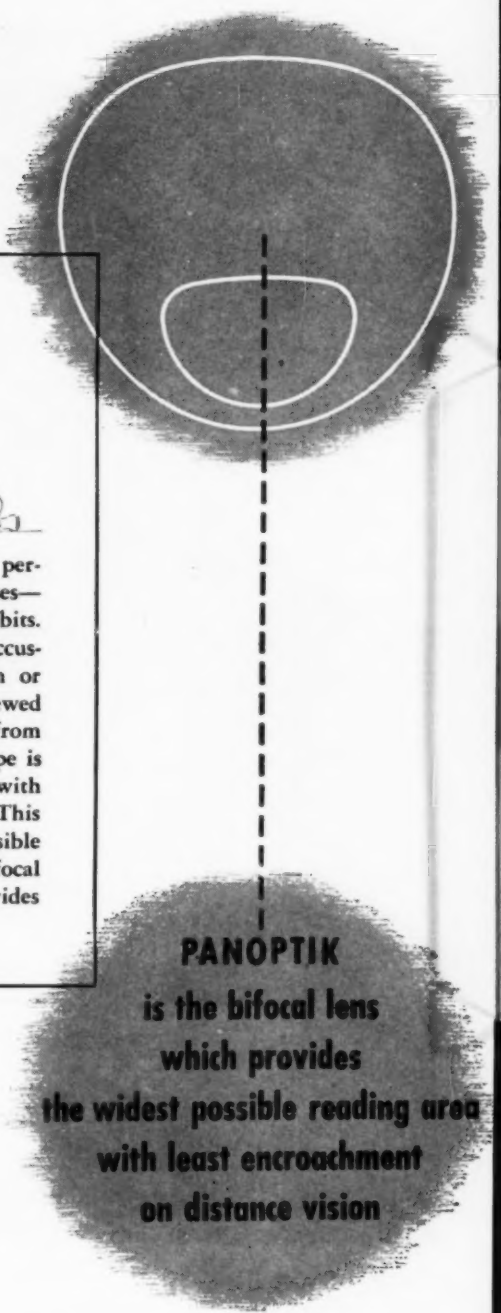
Bifocals come at a difficult time

Presbyopia is a condition which arrives gradually and at a time of life when old habits are hard to break, new habits hard to form. With many types of bifocals, "blind areas," and apparent displacement of objects seen through the segment are frequently of great annoyance.

Panoptik bifocals provide least disturbance to seeing habits



Panoptik is the bifocal lens which provides visual performance most nearly like that of single vision lenses—the bifocal which least disturbs established seeing habits. The optical center of the reading segment is at the accustomed level of reading, so introduces no prism or decentration of reading addition to cause objects viewed through the segment to be depressed or elevated from their normal apparent position. The segment shape is designed to conform to habitual eye movements—with round corners to match the cone of direct vision. This provides widest possible reading field with least possible encroachment on distance vision. Panoptik is the bifocal "easiest to get used to," the bifocal which best provides *"natural vision with comfort."*



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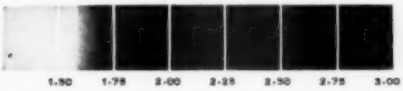
WOMAN'S WORK IS NEVER DONE and for close work such as sewing or knitting the presbyopic patient generally requires full light transmission at the near point with protection against excess light in the distance portion of the lens. To provide for such visual performance, all Soft-Lite fused bifocals are made with segments of white crown glass which provides the essential light for near point seeing, while affording the additional protection and increased comfort of neutral absorption in the remainder of the lens.

How BIG is the potential for trifocals?

CHECK THESE FACTS AND SEE!

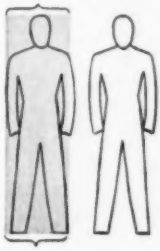
1. It is a fact that patients whose reading addition has reached 1.75D receive no help in the arm's length area from bifocals. These people



need *trifocals* for the arm's length seeing they must do every day, regardless of their occupation.

2. In 1947, more than 50% of all Univis multifocals prescribed were 1.75D or greater in the reading addition.

3. Yet, only 1.5% of these multifocals were trifocals.



4. Despite the fact that trifocal use enjoys normal increase each year, nearly half of 1948's bifocal wearers are potential trifocal patients of yours *right now*. That's what we'd call a BIG potential.

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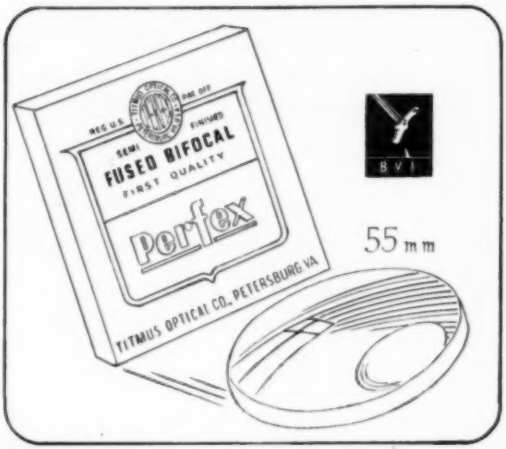

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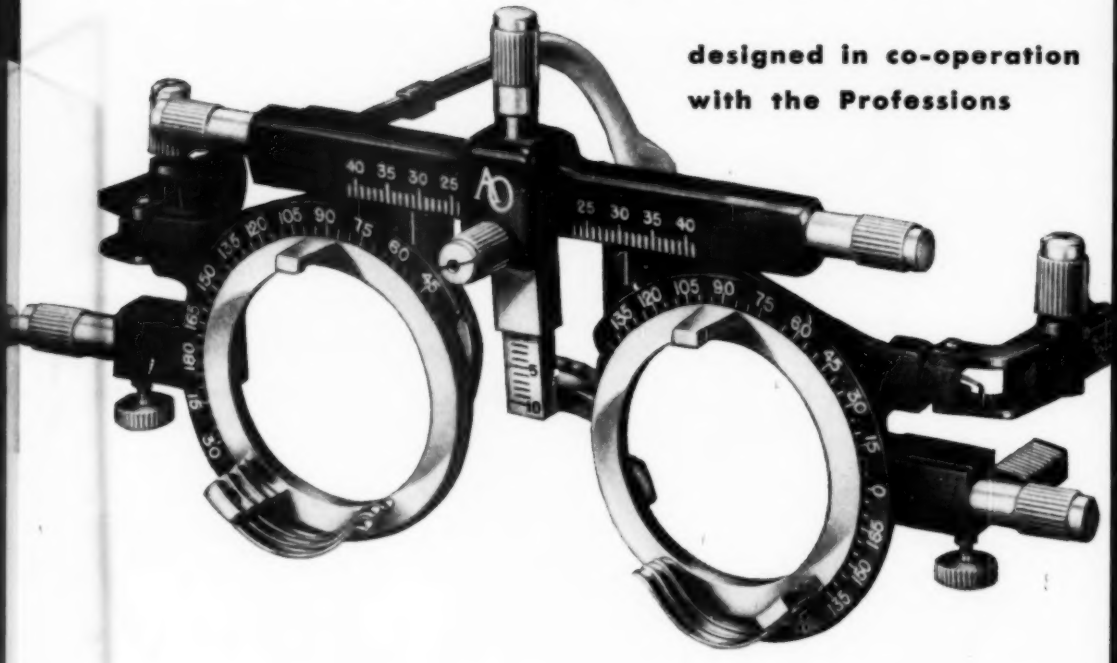

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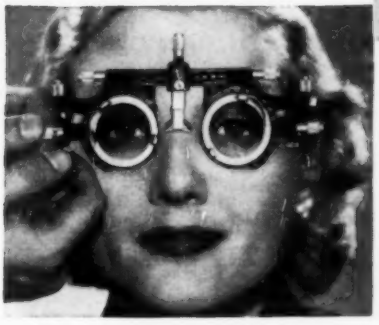

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A MODIFICATION OF SPACE-EIKONOMETER TECHNIQUE*

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New York, New York

ABSTRACT

Difficulties experienced with the use of meridional magnifying lenses at axis 90 combined with meridional magnifying lenses at axis 180 in space eikonometry are discussed. A modification of the space eikonometer technique by the use of overall combined with meridional at axis 180 is proposed. A simplified table is presented for the conversion of space-eikonometer findings obtained by this technique to the specifications of the oblique meridional aniseikonic correction. The modified procedure is justified on the basis of the mathematical and physiological equivalence of the several forms of designating the aniseikonic ratio. It is claimed for this method that it improves testing procedure, increases the accuracy of the test, and enables the clinician to readily interpret raw findings in terms of the final aniseikonic correction.

The writer's experience since January, 1945 with the technique of space-eikonometry described by Ames, Ogle and others[1, 2, 3, 4, 5] has resulted in the recognition of certain practical disadvantages in this method which can be overcome by slight modification of the technique. The technique described by Ames and Ogle conforms to the concept of the geometric and induced effects of aniseikonia on binocular space perception, in that vertical and horizontal differences in the size of the ocular images are considered to be the fundamental parameters of aniseikonia[6]. In the procedure recommended by Ames and Ogle the horizontal difference in the ocular images is first measured with meridional magnifying lenses at axis 90, using the binocularly perceived relative position of laterally separated vertical lines as a criterion. Following this, and with the meridional at axis 90 lens thus determined in place before the patient's eyes, the vertical difference in size of the ocular images is then determined by means of meridional magnifying lenses at axis 180, using the binocularly perceived rotation of a cross formed of lines lying

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†Optometrist. Member of faculty. Fellow, American Academy of Optometry. Chairman, Section on Aniseikonia, American Academy of Optometry.

in the 45° and 135° meridians around a vertical axis in relation to the frontal plane as a criterion. A third measurement made with these two lenses in place determines the binocular declination error. When the binocular declination error is equal to a value other than zero the axis and power of the oblique meridional aniseikonic correction may be calculated from the formulæ[7],

$$(1) \quad \tan 2\,\Phi = 3.5\,\delta/\,v - h$$
$$(2) \quad f = 3.5\,\delta/\,\sin 2\,\Phi$$
$$(3) \quad o = \tfrac{1}{2}\,(v + h - f)$$

in which,

- o = overall component of the aniseikonic correction.
- f = meridional component of the aniseikonic correction.
- h = horizontal component of the aniseikonic correction and the raw finding.
- v = vertical component of the aniseikonic correction and the raw finding.
- δ = binocular declination error.
- Φ = axis of the meridional component of the aniseikonic correction.

In practice it is recommended that tables computed from these formulæ be employed in determining the resultant oblique meridional aniseikonic correction[4, 5].

This technique, while perfectly sound theoretically, has the following clinical disadvantages:

(1) The determination of the vertical difference in the ocular images by this method is not entirely independent of the determination of the horizontal differences because meridional magnification at axis 90 will affect the binocularly perceived orientation of the cross. Hence an error in determining the horizontal difference in the ocular images will result in either too much or too little meridional magnification at axis 90 being in place while the determination of the vertical difference is being made. This will produce an apparent rotation of the cross not due to a vertical difference in the ocular images and hence will result in a corresponding error in the determination of the vertical difference in the ocular images.

(2) The conversion of the raw data obtained by this method of testing to the specifications of the aniseikonic correction is somewhat difficult for the average clinician and is subject to compounding of errors no matter what method of conversion is used. The mathematical computation of the formulæ is extremely laborious and involves the use of trigonometric tables. The graphical solution, even by means of a pre-

constructed chart, is time-consuming and involves several algebraic subtractions which are a source of error even to the experienced mathematician. The use of tables is cumbersome, they are difficult to interpolate and impossible to extrapolate, and there is great duplication in the entries of these tables as constructed for data in the form obtained by the Ames-Ogle technique. In any of these methods there appears to be no readily appreciated relationship between test parameters and the parameters of the aniseikonic correction. This prevents the clinician from making judicious use of his findings in relation to the other components of the aniseikonic correction, such as the power and axis of the correction cylinder. As a result, the clinician may often be led to prescribe an incongruous or unreasonable size correction which could have been avoided by better interpretation of his data.

(3) The measurement seems indirect and far removed from the problem at hand because the determinations are made in terms of meridional at axis 90 and meridional at axis 180, while the clinician is accustomed by experience and necessity to think of aniseikonia in terms of overall and meridional.

In view of these practical difficulties the following recommendations are presented:

(1) That the horizontal component of the difference in size of the ocular images be determined by overall magnifying lenses, using the same criterion as in the Ames-Ogle technique.

(2) That the remaining difference in size of the ocular images in the vertical meridian, which is the meridional component, be determined by means of meridional magnifying lenses at axis 180, using the same criterion as in the Ogle technique for determining the vertical difference in the ocular images.

(3) That the binocular declination error be determined as in the Ogle technique.

(4) That the test parameters be converted to the parameters of the oblique meridional aniseikonic correction by means of Table I. This table shows the value and axis of the oblique meridional magnifying lens which will replace the meridional magnifying lens at axis 180 found in the test and at the same time supply the required binocular declination as determined in the test. When the meridional correction is found to be at an oblique axis it is necessary to apply a correction to the overall found in the test in an amount equal to half the difference between the oblique meridional lens and the meridional lens found at axis 180, and in an opposite sense—that is in the opposite eye to that in which the meridional is found.*

*When the overall is in the same eye as the meridional, the overall is reduced and when in the opposite eye it is increased.

TABLE I

OBLIQUE MERIDIONAL ANISEIKONIC CORRECTION (f% Mer. ax. Φ)
FOR VARIOUS VALUES OF b (=v-h) AND δ

COMPUTED BY GRAPHICAL SOLUTION OF TAN 2Φ = 3.5 δ/b AND f = 3.5 δ/sin. 2Φ
VALUES ROUNDED TO NEAREST 0.12% AND 1.0°

	b	← δ → -1.0	-0.8	-0.6	-0.4	-0.2	0.0	+0.2	+0.4	+0.6	+0.8	+1.0	b
RIGHT EYE	+5.00	R6.12 x 162	R5.75 x 166	R5.50 x 168	R5.25 x 172	R5.00 x 176	R5.00 x 180	R5.00 x 4	R5.25 x 8	R5.50 x 12	R5.75 x 14	R 6.12 x 18	+5.00
	+4.50	R5.75 x 161	R5.25 x 164	R5.00 x 168	R4.75 x 171	R4.50 x 175	R4.50 x 180	R4.50 x 5	R4.75 x 9	R5.00 x 12	R5.25 x 16	R5.75 x 19	+4.50
	+4.00	R5.25 x 159	R4.87 x 162	R4.50 x 167	R4.25 x 170	R4.12 x 175	R4.00 x 180	R4.12 x 5	R4.25 x 10	R4.50 x 13	R4.87 x 18	R5.25 x 21	+4.00
	+3.50	R5.00 x 158	R4.50 x 161	R4.12 x 165	R3.75 x 169	R3.62 x 174	R3.50 x 180	R3.62 x 6	R3.75 x 11	R4.12 x 15	R4.50 x 19	R5.00 x 22	+3.50
	+3.00	R4.50 x 155	R4.12 x 158	R3.62 x 162	R3.25 x 168	R3.12 x 173	R3.00 x 180	R3.12 x 7	R3.25 x 12	R3.62 x 18	R4.12 x 22	R4.50 x 25	+3.00
	+2.50	R4.25 x 153	R3.75 x 156	R3.25 x 160	R2.87 x 165	R2.62 x 172	R2.50 x 180	R2.62 x 8	R2.87 x 15	R3.25 x 20	R3.75 x 24	R4.25 x 27	+2.50
	+2.00	R4.00 x 150	R3.50 x 153	R2.87 x 157	R2.50 x 162	R2.12 x 170	R2.00 x 180	R2.12 x 10	R2.50 x 18	R2.87 x 23	R3.50 x 27	R4.00 x 30	+2.00
	+1.50	R3.75 x 147	R3.25 x 149	R2.62 x 155	R2.00 x 158	R1.62 x 167	R1.50 x 180	R1.62 x 13	R2.00 x 22	R2.62 x 27	R3.25 x 31	R3.75 x 33	+1.50
	+1.00	R3.62 x 143	R3.00 x 145	R2.25 x 148	R1.75 x 153	R1.25 x 163	R1.00 x 180	R1.25 x 17	R1.75 x 27	R2.25 x 32	R3.00 x 35	R3.62 x 37	+1.00
	+0.75	R3.50 x 141	R2.87 x 142	R2.25 x 145	R1.62 x 149	R1.00 x 159	R0.75 x 180	R1.00 x 21	R1.62 x 31	R2.25 x 35	R2.87 x 38	R3.50 x 39	+0.75
	+0.50	R3.50 x 138	R2.87 x 140	R2.12 x 142	R1.50 x 145	R0.87 x 153	R0.50 x 180	R0.87 x 27	R1.50 x 35	R2.12 x 38	R2.87 x 40	R3.50 x 42	+0.50
	+0.25	R3.50 x 136	R2.75 x 137	R2.12 x 138	R1.50 x 140	R0.50 x 145	R0.25 x 180	R0.50 x 35	R1.50 x 40	R2.12 x 42	R2.75 x 43	R3.50 x 44	+0.25
	0.00	L3.50 x 45	L2.75 x 45	L2.12 x 45	L1.50 x 45	L0.75 x 45	0.00	R0.75 x 45	R1.50 x 45	R2.12 x 45	R2.75 x 45	R3.50 x 45	0.00
LEFT EYE	-0.25	L3.50 x 44	L2.75 x 43	L2.12 x 42	L1.50 x 40	L0.50 x 35	L0.25 x 180	L0.50 x 145	L1.50 x 140	L2.12 x 138	L2.75 x 137	L3.50 x 136	-0.25
	-0.50	L3.50 x 42	L2.87 x 40	L2.12 x 38	L1.50 x 35	L0.87 x 27	L0.50 x 180	L0.87 x 153	L1.50 x 145	L2.12 x 142	L2.87 x 140	L3.50 x 138	-0.50
	-0.75	L3.50 x 39	L2.87 x 38	L2.25 x 35	L1.62 x 31	L1.00 x 21	L0.75 x 180	L1.00 x 159	L1.62 x 149	L2.25 x 145	L2.87 x 142	L3.50 x 141	-0.75
	-1.00	L3.62 x 37	L3.00 x 35	L2.25 x 32	L1.75 x 27	L1.25 x 17	L1.00 x 180	L1.25 x 163	L1.75 x 153	L2.25 x 148	L3.00 x 145	L3.62 x 143	-1.00
	-1.50	L3.75 x 33	L3.25 x 31	L2.62 x 27	L2.00 x 22	L1.62 x 13	L1.50 x 180	L1.62 x 167	L2.00 x 158	L2.62 x 153	L3.25 x 149	L3.75 x 147	-1.50
	-2.00	L4.00 x 30	L3.50 x 27	L2.87 x 23	L2.50 x 18	L2.12 x 10	L2.00 x 180	L2.12 x 170	L2.50 x 162	L2.87 x 157	L3.50 x 153	L4.00 x 150	-2.00
	-2.50	L4.25 x 27	L3.75 x 24	L3.25 x 20	L2.87 x 15	L2.62 x 8	L2.50 x 180	L2.62 x 172	L2.87 x 165	L3.25 x 160	L3.75 x 156	L4.25 x 153	-2.50
	-3.00	L4.50 x 25	L4.12 x 22	L3.62 x 18	L3.25 x 12	L3.12 x 7	L3.00 x 180	L3.12 x 173	L3.25 x 168	L3.62 x 162	L4.12 x 158	L4.50 x 155	-3.00
	-3.50	L5.00 x 22	L4.50 x 19	L4.12 x 15	L3.75 x 11	L3.62 x 6	L3.50 x 180	L3.62 x 174	L3.75 x 169	L4.12 x 165	L4.50 x 161	L5.00 x 158	-3.50
	-4.00	L5.25 x 21	L4.87 x 18	L4.50 x 13	L4.25 x 10	L4.12 x 5	L4.00 x 180	L4.12 x 175	L4.25 x 170	L4.50 x 167	L4.87 x 162	L5.25 x 159	-4.00
	-4.50	L5.75 x 19	L5.25 x 16	L5.00 x 12	L4.75 x 9	L4.50 x 5	L4.50 x 180	L4.50 x 175	L4.75 x 171	L5.00 x 168	L5.25 x 164	L5.75 x 169	-4.50
	-5.00	L6.12 x 18	L5.75 x 14	L5.50 x 12	L5.25 x 8	L5.00 x 4	L5.00 x 180	L5.00 x 176	L5.25 x 172	L5.50 x 168	L5.75 x 166	L6.12 x 162	-5.00

These recommendations are based upon the following considerations:

(1) The combination of h Mer. ax 90 ⌒ v Mer. ax 180 which is determined by the Ogle technique could as well be represented by h O.A. ⌒ (v-h) Mer. ax 180.** Hence there is no violation of

h Mer. ax 90 ⌒ v Mer. ax 180
h O.A. ⌒ (v-h) Mer. ax 180
v O.A. ⌒ (h-v) Mer. ax 90

the fundamental principles of space eikonometry if we choose to use O.A. ⌒ Mer. ax 180 in place of Mer. ax 90 ⌒ Mer. ax 180, for either combination will give identical aniseikonic effects both in optical magnification and in binocular space perception.

(2) The value v-h is an independent variable in the formulæ of Ogle and is also equal to the meridional component of the O.A. ⌒ Mer. ax 180 size lens combination which corrects the vertical and horizontal components of the aniseikonia as measured by the space eikonometer. If we let *a* equal the overall lens and *b* equal the meridional lens of such a combination as determined in the modified technique then,

$$(4) \quad a = h$$
$$(5) \quad b = v\text{-}h$$

and when these values are substituted in formulæ (1) and (3) we obtain the following:

$$(6) \quad \tan 2\Phi = 3.5\,\delta/b \qquad \text{(from 1.)}$$
$$(7) \quad o = a + (b\text{-}f)/2 \qquad \text{(from 3)}$$
$$(8) \quad o = a + \triangle o$$

where,

$$(9) \quad \triangle o = (b\text{-}f)/2 = -(f\text{-}b)/2$$

in which

a = overall component of the raw finding.
b = meridional component of the raw finding.
$\triangle o$ = correction to be applied to a to give o.

(3) Meridional magnification at axis 90 affects the binocularly perceived orientation of both the vertical lines and the cross, while overall magnification affects only the vertical lines and meridional magnification at axis 180 affects only the cross.* It would therefore appear that the best choice of two size lenses for measuring aniseikonia in the

**This follows from the laws governing the transposition of size lenses values which are essentially similar to the laws governing the transposition of sphero-cylinders. That is, any given compound size correction may be expressed in terms of any one of the following three combinations of two size lenses.

*It should be emphasized that the binocular space perception effects of meridional magnification at axis 180 in the space eikonometer are not induced effects but are geometric effects since they follow directly from geometric distortions of the cross.

space eikonometer would be overall and meridional at axis 180, since they are the only combination of two size lenses whose binocular space perception effects are mutually exclusive of one another. That is, overall affects the lines but not the cross, while meridional at axis 180 affects the cross but not the lines.

The modified technique of space eikonometry described above is presented in the expectation that its use will offer the clinician the following advantages:

(1) Increased accuracy in the determination of the vertical component, or more particularly the meridional component, of the aniseikonic correction.

(2) A direct and readily applicable method of evaluating the relative significance of the separate elements of the space eikonometer findings in terms of their influence on the probable aniseikonic correction and interpreting this aniseikonic correction in terms of its relation to the elements of the refractive correction.

(3) A means of utilizing the sensitivity of each of the three test parameters in determining the limits within which each of the aniseikonic correction parameters may be expected to vary.

(4) A certain flexibility in testing technique, inasmuch as the horizontal component of the aniseikonic correction need not be accurately determined and corrected before attempting the determination of the vertical component.

(5) Uniformity in manner of designating aniseikonic quantities as between space eikonometry, standard eikonometry, and power quantities of the refractive correction.

(6) A generally useful and acceptable understanding of the basic nature of the several types of aniseikonia in terms of the concept of the aniseikonia ellipse.

SUMMARY AND CONCLUSIONS

From the foregoing it is apparent,

(1) That the use of meridional at axis 90 combined with meridional at axis 180 in space eikonometry imposes the practical disadvantages of inherent inaccuracy due to the effects of meridional at axis 90 on the appearance of the cross: of cumbersome methods of converting the test findings to the form of the aniseikonic prescription: and of apparent indirectness of the measurement.

(2) That the use of overall combined with meridional at axis 180 is theoretically sound since it violates none of the fundamental principles of space eikonometry and is based upon: (1) the aniseikonic identity of transposed combinations of size lenses: (2) the recognition

of v-h as the independent variable of Ogle's formula: and (3) the mutually exclusive space perception effects of overall and meridional at axis 180 on the elements of the space eikonometer target.

(3) That the use of overall combined with meridional at axis 180 is clinically preferable to meridional at axis 90 combined with meridional at axis 180 in that it presents none of the difficulties inherent in the use of the latter and in addition makes possible the use of sensitivity in determining the aniseikonic prescription, allows a flexibility in the testing procedure, conforms with usual clinical practice as to the form in which the findings are obtained, and allows for visualization of the type of aniseikonia in terms of the concept of the aniseikonic ellipse.

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ABSTRACTS

VISION AND EDUCATION. F. O. Polte. Associated Journal of Optometry. 13.10.11. 1948.

The author states that: "Visual surveys have demonstrated that from 50 to 80 per cent of our school children do not have standard acuity and binocular vision."

The form of "eye test" performed in some schools is criticized as being inadequate since it is based upon the student's ability to see certain size letters on a chart at a distance of 20 feet. However, the student is expected to read at 12 to 16 inches.

Of thirty-six million children under fifteen years of age in this country, four million are known to have visual disturbances. The problem is not the care of these children, but those not being cared for now. Some states are spending much time investigating visual care in the schools. However, in other states very little visual work in the schools is being done.

A broad program is being carried on in Texas on a state-wide scale under the direction of Dr. Darell B. Harmon, a psychophysiologist, whose committee consists of representatives from various professional groups (architects, illuminating engineers, nutritionists, medical and dental specialists, ophthalmologists and optometrists). Each man investigates difficulties and makes the necessary changes in his special field.

The results found six months later in the ideal classroom set up were significant. Eye difficulties dropped 57.1 per cent and educational growth was much increased.

The author recommends yearly visual examinations in the schools and he gives an outline of the minimum factors that should be investigated.

R. E. B.

A SURVEY OF PRACTICES IN PRESCRIBING PRESBYOPIC ADDS*

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INTRODUCTION

From time to time rules-of-thumb and tables have been formulated by various authors for the purpose of aiding practitioners and students to prescribe the proper amount of spherical add in presbyopia. In view of the existence of such formulations and the necessity of relying upon such formulations for the purpose of teaching clinical procedure, it has seemed to the writer that their practical usefulness might be tested by a comparison with the actual practices followed by several representative optometrists. To accomplish this the writer enlisted the aid of six optometrists‡ in supplying data from their private practices, and one senior student§ in the School of Optometry who collected comparable data from the files of the Optometry Clinic for several sample years.

SURVEY PROCEDURE

Each of the cooperating optometrists and the optometry student was supplied with two identical mimeographed tally sheets, one on which to tally the data from male patients and one on which to tally the data from female patients. In addition the following instructions were mimeographed and provided as guides for the selection of cases.

For the purpose of this survey a *near add* is defined as the spherical difference between the lenses actually provided for near, and lenses actually provided for distance. In the case of bifocals the amount of the add is ordinarily stated directly in the prescription, but if separate pairs of glasses are provided, the add is computed as the spherical difference.

If only "single vision glasses for near" are provided, the add is represented by the spherical difference between this pair and the assumed best distance correction.

If "compromise" single vision lenses are provided, i.e., lenses representing a slight over-correction of plus for distance and a slight under-correction for near to avoid bifocal lenses, the extent of the actual over-correction for distance is to be considered the "add." If the records do not indicate that such a compromise was made, and if the single vision glasses are actually provided for general use, i.e. both distance and near, the add is to be considered as zero.

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*Read before the annual meeting of the American Academy of Optometry, Winston-Salem, North Carolina, December 5, 1948. For publication in the April, 1949 issue of the AMERICAN JOURNAL OF OPTOMETRY AND ARCHIVES OF AMERICAN ACADEMY OF OPTOMETRY.

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‡D. S. Goldschmidt, Circleville, Ohio; Kenneth Kiess, Hillsdale, Michigan; Frank A. Muehlenbeck, Flint, Michigan; E. E. Reese, Westerville, Ohio; William A. Sherard, Columbus, Ohio, and J. M. Wareham, Mt. Vernon, Ohio.

§Wayne L. Odom.

Record the adds for right eyes only.

The patients from whose records these data are obtained should be limited to those having binocular vision and correctible visual acuity of 20/20 or better. Trifocal prescriptions and special occupational prescriptions should not be included.

In addition to providing these instructions, the writer requested that the cases be taken systematically from representative periods or sections of the files. The tally sheets permitted entries for all ages from 36 to 69 years inclusive, and for all adds from .00 to 3.25 diopters inclusive, in .25 diopter steps. Patients with more than one examination or prescription record on file were to be entered only once, the more recent record being preferred in each instance unless there was, in the opinion of the optometrist, clinical evidence that the earlier record would be more representative of a "successful" prescription. The age specifications were understood to represent those given by the patients without special qualifications as to whether the age was computed "to the nearest birthday," "to the next birthday," or "to the last birthday."

The number of cases reported by each optometrist was in response

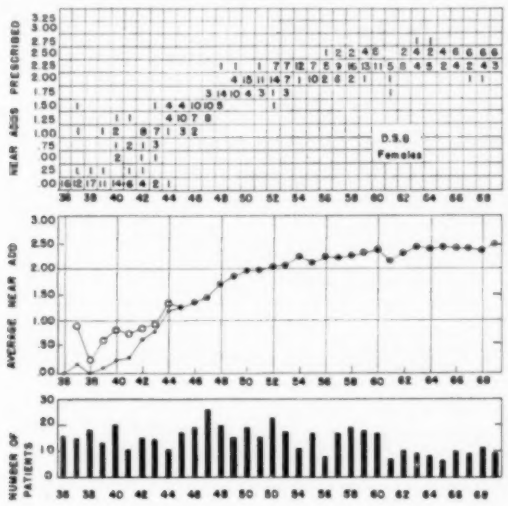

Fig. 1. Female data from the mixed urban and rural practice of D. S. Goldschmidt, from records representing the 10th and 11th years of practice. Population of town 8,000. The reading add prescriptions are purportedly based on an "endeavor to balance the fused cross cylinder finding at 40 cm. against the Donders' age-amplitude table, and the working distance most used by the patient." The open circles represent the averages of the adds greater than zero; the solid circles represent the averages of the adds including the zero adds.

to a request for "several hundred" cases, or enough cases to establish the trend in each practice.

Each of the optometrists was requested to state or describe in a very few words the general rule or procedure he professed to follow, if any, in prescribing adds for near. These statements, and some additional information characterizing the types of practice are included in the figure legends.

RESULTS

The original data from four of the private practices and from the Optometry Clinic are given in Figures 1 to 10. The data obtained from the other two optometrists, F. M. and K. K., are not included in this report. The data from optometrist F. M. were omitted because the tabulation of zero adds was not included in his report; the data from K. K. were omitted because the composite figure drawings and computations were completed before the report was received. Mention of both of these is made, however, because their data served to confirm the characteristic features of the several sets included here and so added to the reliability of the observations.

In Figure 11 are shown the composite curves for the data represented in Figures 1 to 10.

In each instance the number of females reported exceeded the number of males, the ratio probably reflecting the actual ratio of females

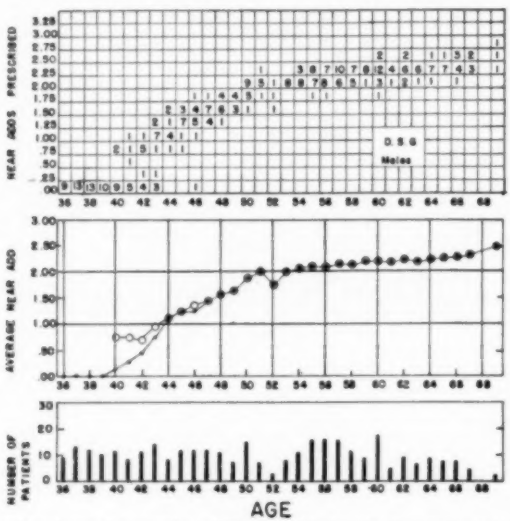

Fig. 2. Male data from the practice of D. S. Goldschmidt. See explanation of Figure 1.

to males in the practice, at least for the age group represented.

A comparison of the male and female average-near-add curves shows a consistently higher add for females at practically all of the age levels in every set of data and in the composite curves of Figure 11. The same differences were apparent in the unreported data of F. M. and K. K. By inspection of the relative positions of the male and female curves in Figure 11 it may be estimated that the difference averages about 0.12 diopter.

A comparison of the average-near-add curves for the various practitioners shows less average difference between practitioners than between sexes in the same practice. No one practitioner was consistently highest at all age levels. D. S. G. showed the highest average add at the majority of age levels for both sexes, but he also showed the lowest average add in the early years. J. M. W. showed the lowest average add in almost half of the age levels represented. The average difference in adds at

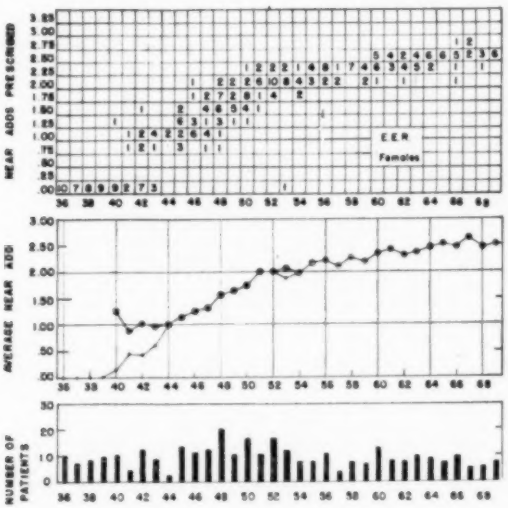

Fig. 3. Female data from the predominantly rural practice of E. E. Reese, from records representing the 10th and 15th years of practice. Population of town 3,000. The reading add prescriptions are purportedly based on age as a tentative guide with adjustments indicated by the accommodative range test (previously described by the writer[2]) and allowances according to the occupation and the expected working distance.

Dr. Reese had anticipated that his adds would be lower than the average. Comparison with the female data of the other optometrists shows Reese's to be the highest above the age of 60. Below 60, his adds approximate the average.

each age level provided by these two practitioners is estimated by inspection to be less than 0.2 diopter. The averages of the adds at each age level for all of the other practitioners, including F. M. and K. K., were intermediate.

The distributions of the adds at given age levels do not differ markedly with the various practitioners. This comparison can be made most satisfactorily at the higher age levels, at which the average-near-add show very little increase per year. It may be assumed that the variations in adds at these levels are probably quite independent of the amplitude of accommodation, and hence the variations in the amounts of the add made at these levels would indicate the extent to which the individual optometrist takes into account factors other than the accommodation. A general inspection of the distribution of adds at the higher age levels shows no marked differences from one set of data to the next.

It is quite evident from the scattering of the data that the age itself was not routinely employed by any of the optometrists as a basis for prescribing the near add. This observation applied equally as well to the data of F. M. and K. K. not reported here.

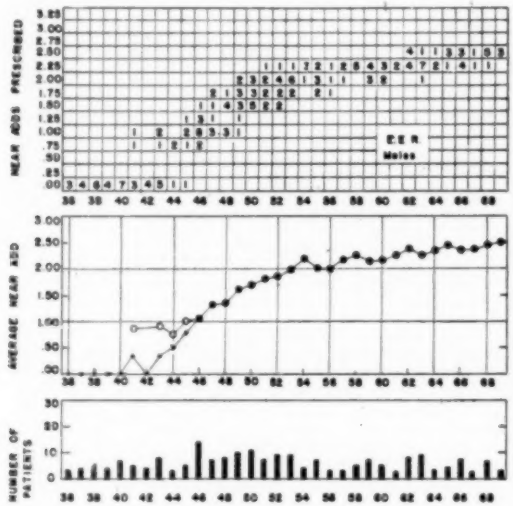

Fig. 4. Male data from the practice of E. E. Reese. Comparison with the male data of the other optometrists shows Reese's to be highest above the age of 55. Below 55 his adds approximate the average. See also explanation of Figure 3.

The results may be regarded as somewhat distorted by the fact that there exists in any practice a natural selection of cases at each level which may be based on the assumption that many patients do not seek eyecare until it is needed, or more specifically in this instance, until reading adds are needed. Evidence of this behavior was published by Tiffin[1] from a survey of the visual acuity at near for various ages among industrial employees. This inference is supported by the data on the number of patients at each age level shown in Figures 1 to 11. In these figures it is apparent that more people seek eyecare in the age range requiring reading adds than in the immediately preceding age range. That is, the number of people seeking eyecare at each age increases up to about the age of 45. The gradual drop after 45 is probably accounted for in terms of the vital characteristics of the total population.

If this natural self-selection is true, it means that patients with amplitudes of accommodation high for their age do not present themselves for optometric care until later in life than people with low amplitudes. Hence the average reading adds prescribed at the early

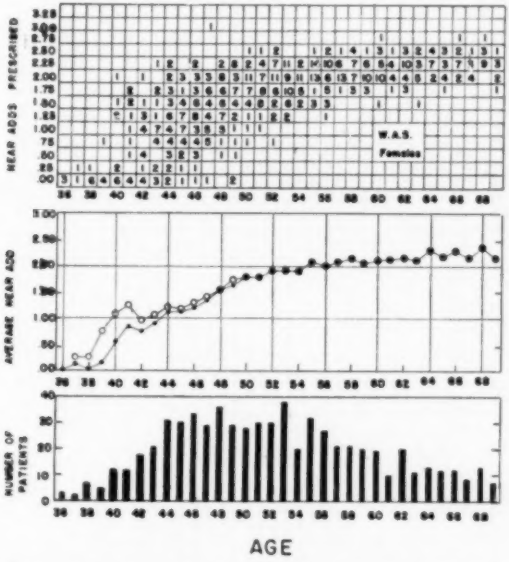

Fig. 5. Female data from the predominantly urban practice of W. A. Sherard, from records representing mostly the 19th year of practice. Population of city 400,000. The reading add prescriptions are purportedly based on the "use of a tentative near finding that enables patient to barely get best acuity at near, subject to verification by the use of binocular cross cylinders in a trial frame."

ages of, say, 36 to 42, would be higher than would be the case in a random sampling at these ages. This distortion would gradually disappear at the higher age levels.

The data also present another distortion of the apparent fact for the reason that they indicate the amount of the add that was actually prescribed at each level rather than the amounts actually worn at each age level. Thus a patient for whom a +1.00 D. add is prescribed at the age of 40 may well wear the same add for several subsequent years. If, for example, it is assumed that the average bifocal add is worn for three years without change, the average add prescribed at a given age would more accurately represent the average add being worn one and one-half years hence. Insofar as a patient finds his reading add satisfactory for some time subsequent to the date of the prescription, the add must be regarded as a statistical over-correction at the time of the prescription. It is not easy to ascertain whether the typical practitioner prescribes on the basis of the immediate needs or on the basis of the anticipated needs for a given period of time of recommended wear, but the former may well be suspected as the more natural procedure.

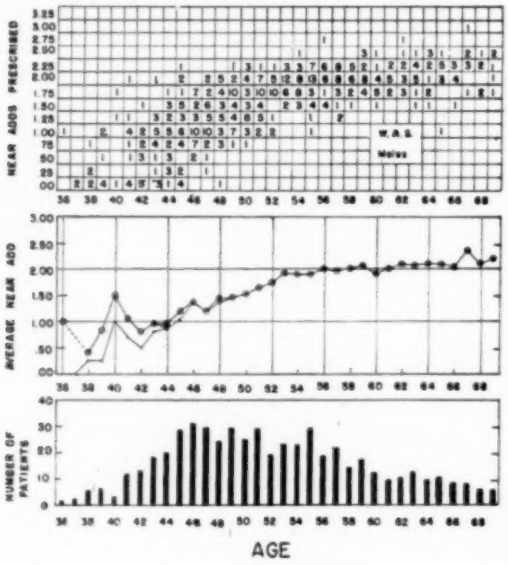

Fig. 6. Male data from the practice of W. A. Sherard. See explanation of Figure 5.

At the lower age levels reported here a statistical artifact occurs as a result of the apparent practice of withholding the prescription of an add for near until at least a half-diopter or, more nearly, almost a full diopter, can be justified in the initial bifocal prescription. It is quite apparent from the data that a person who needs a +0.50 D. add is more frequently given a +1.00 D. or no add at all than the +0.50 D. This artifact is best represented in the curves of the average adds, which show a pronounced divergence at the lower age levels, the upper branch in each figure representing the averages for the adds greater than zero, and the lower branch representing the averages for the adds including the zero adds. At the higher age levels the curves become confluent.

Although the several optometric practices differ considerably in terms of the type of population served, it is not apparent that these

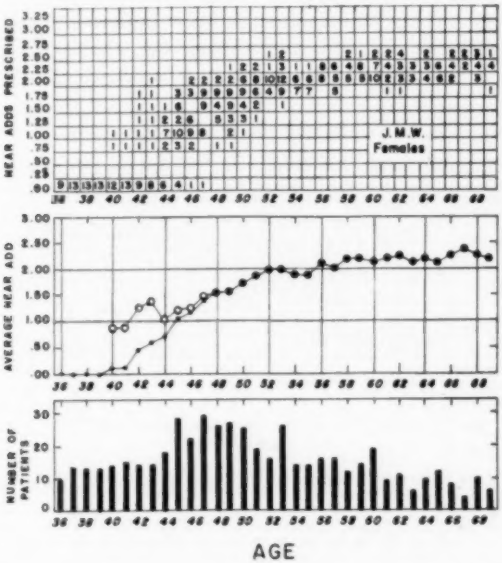

Fig. 7. Female data from the mixed urban and rural practice of J. M. Wareham, from records representing the 10th to 19th years of practice. Population of town 15,000. The reading add prescriptions are purportedly based on the maintenance of "half of the amplitude in reserve."

Dr. Wareham had anticipated that his adds would be lower than the average. Comparison with the data from the other practitioners showed that his were among the lowest at most of the age levels. Dr. Wareham also reported that he believed he definitely "crowded the plus at distance" more than the average practitioner. If his belief is correct, the lower add values prescribed by him may be accounted for as a compensation for the extra plus in the distance correction.

factors influence the magnitude of the average add. As mentioned in the figure legends some of the practices serve predominantly urban groups and others serve predominantly rural groups. The size of town in which the practitioner is located is indirectly an index of the type of population served, but there does not appear to be any correlation with this in the average reading add prescribed.

In the practice of F. M., the data of which are not included here, a large number of the patients were industrial employees (population of city 169,000). The data, however, were essentially representative of the average, as previously mentioned.

The practitioners represented in this survey varied widely in years of experience, as indicated in the figure legends. In the case of K. K. the data were obtained from the 1st, 2nd, and 3rd years of practice. In the case of F. M. the data were in part from the records of the first four years of his own practice and in part from the 20th to 28th years of the practice of his senior associate, but essential differences in the adds prescribed were not apparent. Altogether, the optometrists in the survey showed no differences which could be related to the number of years in practice.

Another item of incidental interest is the fact that several of the

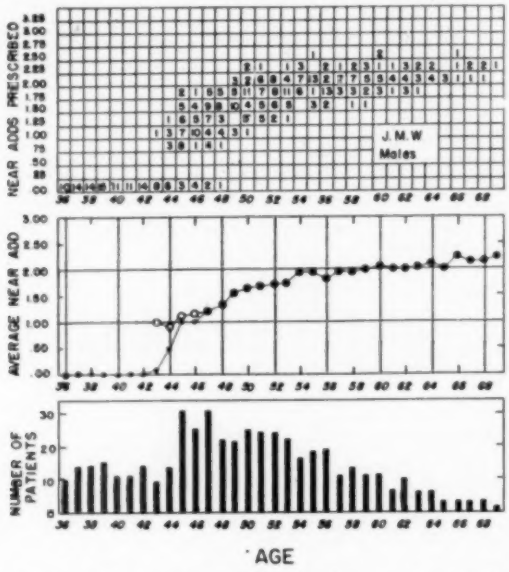

Fig. 8. Male data from the practice of J. M. Wareham. See explanation of Figure 7.

optometrists in the survey volunteered guesses, upon request, as to whether their adds would be higher or lower than the average. One who guessed "higher" (F. M.) was average, one who guessed "lower" (E. E. R.) was average, and another who guessed "lower" (J. M. W.) was correct in being slightly lower than the average. Three of the optometrists (F. M., K. K., and J. M. W.) believed that they "crowded the plus" on the distance correction more than average. The other optometrists were unwilling to make guesses, or else believed that their results would be average.

DISCUSSION

A number of tables showing the relationship of the reading add to age have been published. In general such tables have been approximations derived from the experiences of one or another practitioner, and hence were designed as recommended tables to be used in lieu of

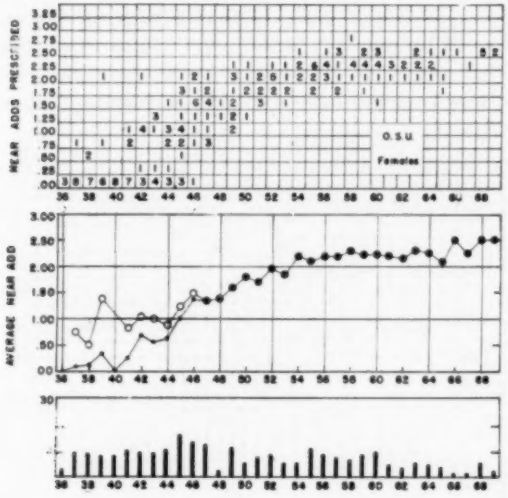

Fig. 9. Female data from the records of the Ohio State University Optometry Clinic, sampled from the files of the years 1942-1946 inclusive. The clinic is patronized largely by University personnel and students, hence relatively few of the patients are presbyopes. In the presbyopic group in this period there were included many indigent or "relief" patients. Otherwise, the patronage represents persons from the urban community in the University area. The adds represented in these data are those prescribed by the clinical instructors, of whom there were four during this period. Each of the instructors was free to employ his favorite criterion for determining the reading add, and these criteria may be presumed to have varied considerably from one instructor to another.

a better basis for prescribing adds. In Figure 12 are shown the adds recommended by each of several authors.

It is evident that all of the recommended values differ sufficiently from the average data to rule out any necessity of discussing the relative merits of the various recommendations. A possible exception is seen in Laurance's figures in that his recommended adds for use at 33 cm. closely approximate the lower half of the average curve, and his recommended adds for use at 40 cm. closely approximate the upper half of the average curve. If there is any reason to suspect that patients in the lowest age ranges have habitual reading distances of 33 cm. and that patients in the highest age ranges have habitual reading distances approaching 40 cm., then there may be considerable validity in the formulation.

Another general method for arriving at a reading add in presbyopia is based on the amplitude of accommodation. These methods involve the use of clinical rules-of-thumb such as, "one-half of the amplitude should be kept in reserve,[5, 10, 11]" "one-third in reserve[7, 12]," etc. Insofar as tables of expected amplitude are based on age such methods can also be tested for validity by computing the expected near

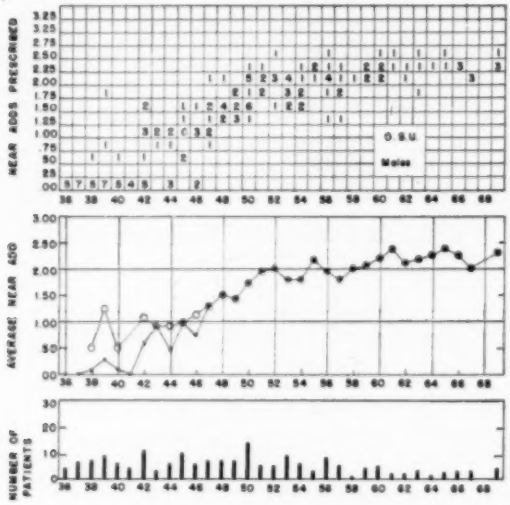

Fig. 10. Male data from the records of the Ohio State University Optometric Clinic. See explanation of Figure 9.

add for each age using the expected amplitude and one or another clinical rule of thumb.

In previous articles[8, 9] the writer has attempted an empirical formulation of a straight line relationship between amplitude and age, based on a compromise between Donders' and Duane's data. The two sets of data are shown in Figure 13. The writer's straight line representation of the combined data is shown in Figure 14. The expected adds based on the intermediate trend in Figure 14 and the use of each of three arbitrary ratios of the reserve accommodation to the accommodative stimulus, and the assumption of each of two different reading distances, namely 33 cm. and 40 cm., are shown in Figure 15.

The obvious failure of these straight lines to fit the actual average add curve indicates one or both of at least two possible explanations.

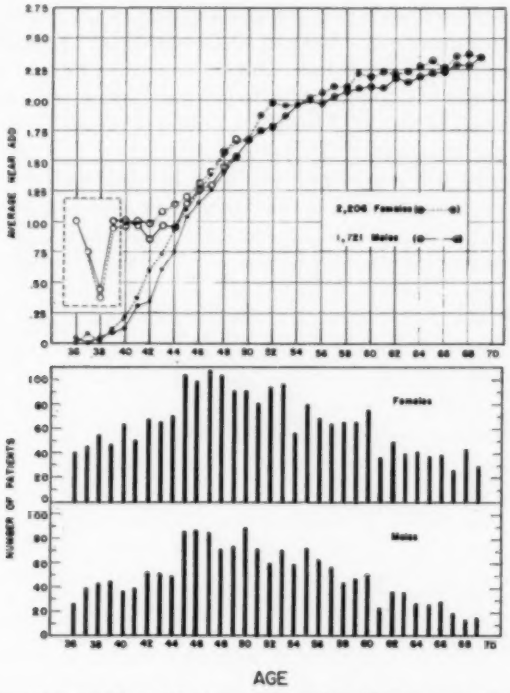

Fig. 11. Composite graph of the data represented in Figures 1 to 10. The marked irregularities in the trend of the more-than-zero adds at the lower age levels are accounted for by the small samplings of individuals for whom adds are prescribed. All of the points representing the averages of five or less patients are so identified in the figure by enclosure in the small rectangle.

1. The rules of thumb involving a simple ratio of the reserve accommodation to the accommodation stimulus may not adequately represent the continuously changing physiological needs. Of course, some flexibility is provided within these rules by the fact that the assumed reading distance may be varied with age, but a general inspection of Figure 15 does not disclose the possibility of any simple or systematic allowance of this type which would make any one of the rules-of-thumb more nearly approximate the actual data.

2. On the other hand it is very possible that the reduction of amplitude with age above the age of 36 is not adequately represented by a straight line, as suggested in Figure 14. It is of considerable significance that Duane's curves as shown in Figure 13 would permit the assumption of a simple relationship between the average amplitude and the average add at each age between 36 and 69, and this is further substantiated by Wareham's data (Figures 7 and 8), since his adds are based on the simple rule of "one-half of the amplitude in reserve." However, neither Donders' amplitude data, as shown in Figure 13, nor the data of Kaufman[8, 13] confirm the trend that Duane reported for the age range above 36 years. Also some doubt is raised by the fact that students in the Optometry Clinic frequently report that the adds they would prescribe by using the "one-half in reserve" rule are almost always less than the adds that the clinic instructors actually prescribe

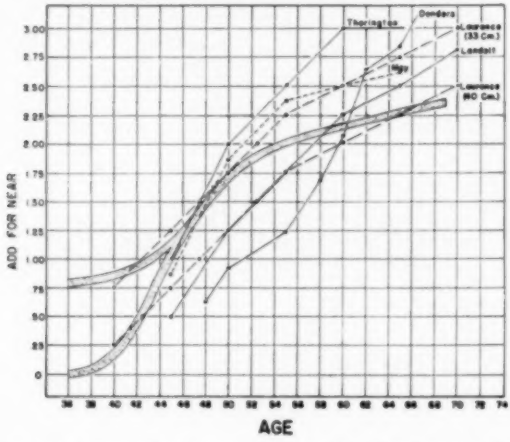

Fig. 12. Near adds recommended at various ages by Thorington[3], Donders[4], Laurance[5], May[6], and Landolt[7]. Laurance had a choice of two recommended values for each age, depending on whether the patient chose to work at 33 cm. or 40 cm. The wide sweeping curve represents the combined male and female data curve from Figure 11.

for the same patients. It was in fact the repeated discrepancy between students and instructors in the Optometry Clinic that instigated this survey. It seems probable that the discrepancy is attributable to fundamental differences in technique in measuring the amplitude of accommodation, as has been discussed in a previous article.[8]

It would have been helpful in this report to have collected accommodative amplitude data from the same optometric practices. This would have indicated directly to what extent and in what manner the optometrists actually employ their own amplitude measurements in computing the add.

In spite of this lack of specific data, some insight into the explanation is provided in a recent survey of average amplitudes as found by a group of optometrists in South Africa.[14] These averages are shown in Figure 16. If these values are used to compute adds on the assump-

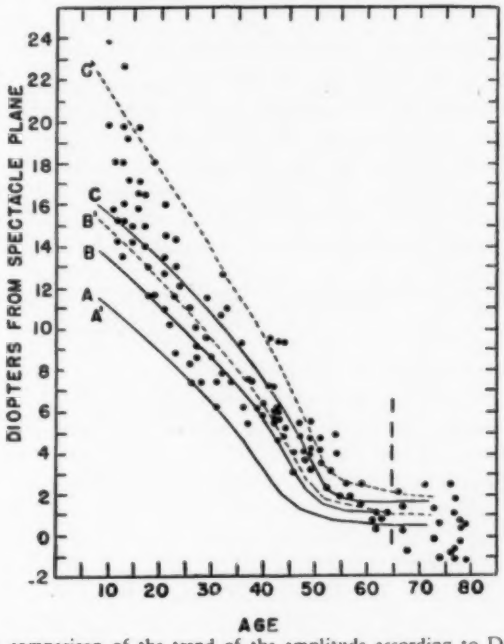

Fig. 13[8]. A comparison of the trend of the amplitude according to Donders (dots) and according to Duane (curves). All specifications are made with respect to an assumed spectacle plane 14 mm. anterior to the cornea. A, B, and C represent Duane's minimum, mean, and maximum monocular values respectively. A', B', and C' represent Duane's minimum, mean, and maximum binocular values respectively. The scattering of Donders' findings above the age of 65 is exaggerated by the computation method employed in transcribing the original data.

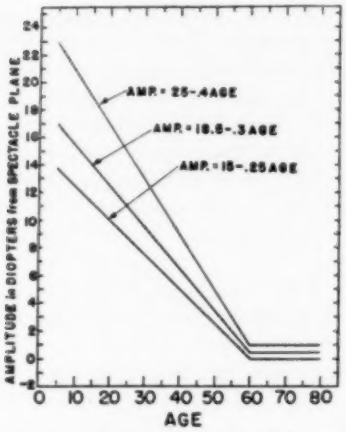

Fig. 14[9]. Straight line representation of the combined data of Fig. 13.

tion that "half the amplitude should be kept in reserve," and on the further assumption that the reading distance will be 40 cm., the results correlate closely with the adds reported here. The degree of correlation is apparent in Figure 16. While this suggests, contrary to the preceding analyses, that the relationship between the amplitude and the prescribed add is very simple, there remains a confusing aspect, namely the fact that the amplitudes obtained in the South African survey are so much lower

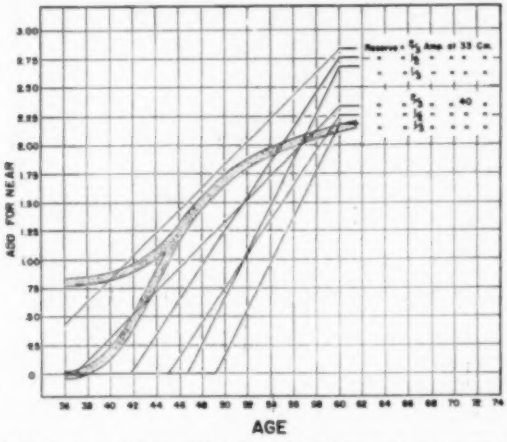

Fig. 15. The adds for near that would be indicated by each of several rules-of-thumb (as indicated) computed on the basis of the intermediate curve in Figure 14.

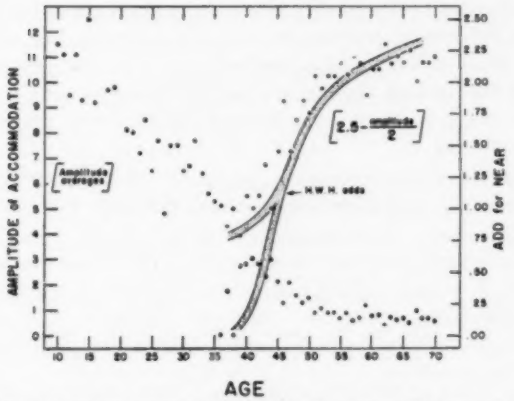

Fig. 16. The solid points represent the amplitude averages for various ages obtained in a survey in South Africa[16]. The ordinate values for these points are read on the scale at the left side. The circles represent the corresponding adds that would have been obtained by the formula shown. The wide sweeping curve represents the combined male and female data from Figure 11. The ordinate values for the circles and for the curve are read on the scale at the right side.

than those obtained in the other investigations cited. The author of the South African report concluded on the basis of the group data that the accommodative amplitudes in South Africa were in fact very much below those obtained in other parts of the globe, but the present survey suggests that perhaps practicing optometrists are employing amplitude-measuring techniques fundamentally different from those employed in the previously published investigations.

CONCLUSION

In view of the lack of agreement between the curve of the average adds actually prescribed and the several add tables based on age, or on rules of thumb which in turn depend on the amplitude of accommodation and an assumed reading distance, and in view of the remarkable similarity between the average add curves of the several individual optometrists in the survey, whose practices have widely divergent characteristics, it is apparent that the practicing optometrist is resorting to criteria which have not as yet been adequately described. That the techniques involving the use of these special criteria can be easily and quickly acquired by the beginning practitioner is also quite evident from the fact that the beginning practitioners in the survey, F. M. and K. K., show essentially the same averages as those with more years of experience.

Before the techniques involved in the determination of the reading

add in presbyopes can be clearly stated, more investigation is needed to explain the differences obtained by Duane and Donders in the measured amplitude, more information is needed relative to the desirable reading distances at the various ages approaching presbyopia, and a more complete study must be made of what criteria and tests practitioners are actually employing.

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ABSTRACTS

OUTLINE OF STUDY OF SCHOOL CHILDREN'S VISION. Marguerite Thoma Eberl. Journal of the American Optometric Association, 20, Oct. 1948.

General consideration, in outline form, is given to the function of vision as it relates to reading, scholastic achievement, and behavior. Several tests used in school are reviewed briefly and the office procedure for a complete visual study is outlined. Examples are given of specific questions that should be asked the child and the parents in the process of eliciting a comprehensive case history. Attention should also be given to the child's temperament, eating and sleeping habits, home tasks and interests, family background, social adaptation, as well as the health and ocular history in the immediate family. Various reading tests that may be used are referred to and suggestions are given as to methods of reporting to the schools.

R. E. B.

FOUNDATIONS OF PROFESSIONAL ETHICS*

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In addition to those principles of general ethics which determine the "rightness" or "wrongness" of the actions of any man, there are special principles which determine the rightness or wrongness of the actions of members of specific groups, where membership in the group itself brings with it unique privileges and unique responsibilities. These special principles, which are peculiarly binding on members of such a group *as members*, but may not hold, at least with the same force, on those who are not members of that group, comprise areas of *applied ethics*, such as, e. g., the rules of a trade union, or the rules of an association of trade unions, or the code of ethics of a profession.

The rules of conduct governing trade unions illustrate quite vividly the specialized character of the obligations and prohibitions which membership in a special group may entail. Even a cursory inspection of the rules by which the trade unions govern themselves reveals that the main concern of the rules is to ensure the loyalty of the members to the group. Most of the prohibitions in the union codes are concerned with protecting the interests of the group as a group, and are not concerned, at least directly, with the furthering of the interests of either the non-members of the group to whom the services of the group are rendered, or the individual members of the group themselves. It is readily admitted that there are situations in which the three sets of interests, those of the members, those of the group, and those of society, are identical; what is invaribly characteristic of trade unions, however, is that where these interests do conflict, all other concerns are subordinated to the interests of the special group. Loyalty to the group, then, becomes the cardinal virtue, and disloyalty to the group becomes the cardinal sin, the highest good being defined as that which is best for the group.

The special groups which concern us most are, of course, the professions. The professions, too, are specialized vocational groups, with their own solidarities and their own interests, but what differentiates

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them from any other vocational group is the deliberate subordination by the profession of its own special interests (in theory at least), to those of society.

As in the trade unions, loyalty to the group is one of the most important virtues. Conduct which is disloyal to the group is designated as "unprofessional" conduct or "unethical" conduct, but unlike the terms used by the trade unions as reproaches against disloyalty, the ultimate connotation of the term "unethical" or "unprofessional" is always *disloyalty to society*.

The profession *identifies* its own interests with those of society. The trade unions do not. By the present standards of the bricklayers' unions, for example, the greatest good (for the bricklayer) is the securing of the greatest number of dollars of wages for the fewest possible hours of labor, an hour of labor in turn being redefined as the laying of the fewest possible bricks for which compensation will not be refused by the employer, or, more accurately perhaps, the laying of no more bricks in an hour than the slowest or most inefficient member of the union can or will lay in an hour. The advantages of such a policy to the mediocre and inferior workers are self-evident; and the domination of the trade unions by the appeals to the interests of its mediocre and inferior members may account to some degree for the fact that membership in these groups has little honorific value, and affords virtually no social prestige.

A considerable amount of confusion has arisen in the contexts of the professions through the use of the term "unethical" instead of the more precise term "unprofessional." The former, which designates conduct that is considered to be wrong when committed by a professional man, may designate conduct which is wrong because it violates the rules of morals or general ethics, in which case there is no confusion; or it may designate a violation of the special rules of etiquette by which professional men bind themselves. As the rules of good manners have only traces of moral significance, the "unmannerly" professional man who is reproached by his colleagues for being "unethical" tends to defend himself by the irrelevant reply that he has committed no breach of general morality, which, of course, was not the issue. The simple fact is that the terms "unethical" or "unprofessional," as used in the context of the professions, are ambiguous. They designate disloyal conduct—without specifying whether the disloyalty is directed primarily against society, in which case the conduct has a direct moral significance; or whether the disloyalty is directed primarily against the group (the profession), in which case the conduct has chiefly an etiquette significance, and only an indirect moral significance.

The *moral* significance of etiquette rules has been neglected and may not be at once apparent. It is nevertheless essential to an understanding of professional ethics, and it is with this neglected moral significance of the etiquette rules with which this paper is largely concerned.

In contrast to the trade unions, where the "highest good" is interpreted as being identical with the economic welfare of the mediocre members of the union, in the professions, the "highest good" is interpreted as being that interest of society which it is the vocation of the profession to serve. For the "doctoring"[1] professions the highest good is the health of the *public: dental health* for dentistry, *general or special* bodily or mental *health* for medicine, *visual efficiency* for optometry. By defining the "highest good" in the above practical fashion, the vagueness or the confusion of conflicting definitions typical of philosophical discussions of right and wrong is by-passed,[2] and a clear-cut criterion is made available, in terms of which value judgments can be made with a high degree of precision.

This identification of the interests of society with the interests of a professional group, and the interests of the individual member with those of his group, constitutes an example of the application of the ethical principles of the doctrine known as "Enlightened Self Interest."

It is a truism of empirical psychology that *all* the actions of a responsible self are related to that self, and are in some manner concerned with furthering the interests of that self. Those acts of self interest which are injurious to others, or which interfere with the interests of others, or of the whole group, can be termed selfish. Now, not all acts of self interest are selfish in this negative or anti-social sense. Many of them are beneficial to others as well as to the actor self—and such acts, instead of being termed selfish, are properly termed acts of enlightened self interest, i.e., acts which are *personally and socially* beneficial. A doctor, for example, who places his patients' interests above his own, performs socially beneficial acts, but he is at the same time serving his own interests, since he will build his practice more successfully by doing so. The most enlightened acts of the self are those guided by the discovery that the interests of the self, and those of his group, and of the society of which his group is a part, can be *identified;* and acts of self interest, when the interests of the self have been identified with those of society, constitute, on this view, the loftiest and noblest acts that a human being is capable of performing. This

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[1]Hofstetter, H., OPTOMETRY—Professional, Economic & Legal Aspects. C. V. Mosby Company. St. Louis, 1948, p. 96.

[2]e.g., the highest good is *pleasure* (hedonism); or *duty* (authoritarianism); or *conscience* (intuitionism); or *the greatest happiness for the greatest number* (utilitarianism); or *the True, the Good, and the Beautiful* (Platonic Idealism); etc.

is the ethical doctrine on which all professions, and for that matter, all sound business enterprises, are explicitly or implicitly based.

The etiquette rules of a professional code are tested, then, by considering whether they serve to promote the basic service which the profession offers to society, or whether a violation of the rule would interfere with the service. Take for example, the prohibition against the soliciting of patients or clients by means of self-laudatory advertisements, which is a characteristic etiquette rule in all professional codes. Suppose, for the sake of argument, that in an individual case, the laudatory advertisements are (a) true; and (b) that the services rendered by the advertiser are at least as good as they would have been had he secured his patient or client through ethical channels; and suppose (c) (to make the issue sharper) that the services which the advertiser in question offers are superior to those available from any of his immediate competitors or colleagues. If he is practicing optometry, in what way has he harmed the visual welfare of his own patients?

Obviously, in terms of the qualifications made earlier, in no way at all; and as a matter of fact, if his advertisement prodded a negligent patient into having his visual needs taken care of, the advertiser has insofar *apparently* promoted the highest good.

Here then we have an apparent paradox where conduct which is disloyal to the profession and is therefore unethical (in the sense of etiquette), promotes the visual welfare of the doctor's patients, and therefore seems to be ethical in the moral sense. The seeming morality of this conduct, however, is based on a mistaken narrowness in the formulation of the criterion of what constitutes the highest good of the profession. The doctor's own patients represent only a very insignificant fraction of all of the patients served by his profession, and as my argument is developed further, I hope it will serve to demonstrate that the good which the advertiser may do for his own patients is outweighed by the harm which he does to his profession and the rest of society.

The principle of utilitarianism expresses a basic truth which is applicable to problems of professional ethics. This principle, made famous by John Stuart Mill, asserts that an act is moral in proportion to the degree in which it serves to promote the greatest happiness for the greatest number of people. Paraphrased into the context of professional ethics, this rule would then enable us to define the highest good of, say, optometry, as the visual welfare of the *entire* public; and an act as "ethical" or "unethical" in so far as it promotes or hinders the visual welfare of the greatest number of people.

Even the intelligent layman rarely learns the rules of professional

etiquette by actually *reading* the code of ethics of his practitioner. He reads the rules in the actual *conduct* of the men he accepts as professional and ethical, and professionalism, as he interprets it, consists of a body of practices rather than a body of preachments.

The layman thus more or less unconsciously *reconstructs* a code of ethics out of the conduct of his practitioner, by a pragmatic interpretation and generalization of the meaning of professionalism. This reconstructed code becomes a sort of uniform by means of which he recognizes ethical professional men, and helps him to identify and shun the unethical practitioner. The implications of the conduct of the professional man are therefore subtle and far-reaching. In so far as he conforms to his own written codes, he helps to clarify and sharpen the practical concept of professionalism in the public mind, and to make the public concept congruent with the formal codifications of it made by his official societies. He thus shares in the vital project of making of professional etiquette and morals a uniform by means of which the public is guarded, to a significant degree, from the dangers of the unscrupulous practitioner. Thus, the *advertiser*, particularly if his own services may be skilful and conscientious, does far more harm to the public in allaying its suspicions of advertisers and exposing them to the dangers of other advertisers who typically do *not* have his skill and conscientiousness, than can be offset by whatever added services he is able to perform by having solicited the patronage of those patients who would not otherwise have come to him.

Advertising, even in the artificial hypothetical case considered above, where it was granted, but only for the sake of argument, that the advertiser's own immediate patients do not suffer, is always *immoral* in a profession which formally prohibits it. Only *a very small number of patients* (if any) receive as good services at the hands of advertisers as they would from non-advertisers. A far larger number of patients who patronize advertisers receive *inferior* or even *harmful* services. In the first place, a professional man who advertises does so in a flagrant and deliberate violation of his code of ethics. He thereby stamps himself as a man with elastic scruples, who is not above resorting to unfair competitive tactics in promoting his own interests. By his very act of advertising, he publicly acknowledges his own interests to be his foremost concern, to which all other interests, including those of his profession and those of society, are *per se* subordinated.

The Bureau of Medical Economics of the A.M.A. has pointed out that *actual experience* proves that

"advertising medical service always tends to break down standards and to lower the quality of medical service. The effectiveness of medical advertising is not judged by the

quality of the service but by the number of patients attracted by the advertisement. As the quality deteriorates, the advertising becomes more vivid and the claims more exaggerated."*

The Bureau cites specific cases where the general principles which it states above are convincingly demonstrated.

To come back to our hypothetical case of the advertiser who nevertheless does a good job of doctoring. In practice, we all know that a good doctor *does not need* to advertise, and the chances are very remote that he ever would; because with the ability and conscientiousness (in all other respects), with which we have hypothetically endowed him, he could eventually build a successful practice *without* advertising. It is the mediocre or inferior doctor who needs to be helped by advertising, his need varying inversely with his ability. However, to explore the implications of the hypothetical case as originally stated, the advertising doctor is certainly *harming* far more patients who *do not come to him at all* than he is helping the very much smaller number of patients who comprise his total practice. As we have pointed out above, he is destroying the significance of the uniform code of etiquette as a symbol to the patient that the practitioner is both competent and scrupulous.

Every profession, like every vocation, has its unscrupulous quacks and charlatans and racketeers who prey on the public instead of serving it. It is not too easy for the public to identify these unscrupulous practitioners, for they are often quite smooth and clever, and that is one reason why they flourish as they do. The deadliest members of this category wear the uniform and outward trappings of the ethical practitioner, belong to their official professional societies, and are very careful to observe at least the *etiquette* rules of their societies. They constitute, however, a very small number of the unscrupulous practitioners, most of whom do not bother themselves with such niceties, because their contempt for the public they victimize is so great that they do not credit it with knowing the difference between ethical or unethical practice. Unfortunately, to a considerable degree they are right. Despite the fact that the more intelligent members of the public are familiar with the rules of professional etiquette, and are suspicious of anyone whose professional manners are questionable, the less intelligent members of the public are not familiar with the sometimes refined etiquette distinctions of the professions, and are therefore relatively unprotected.

However, for the more intelligent layman, the conformity to the standard rules of professional etiquette which his professional practitioner observes has a moderate positive significance—namely—"my

*Ethics & Economics of Medicine. Bureau of Medical Economics. American Medical Association. Chicago. 1936-38. page 19.

hypothesis that my doctor is a professional man who is both competent and scrupulous hasn't been refuted yet." Failure on the part of his doctor to conform to the code of etiquette has a vastly greater negative significance, and even the smallest violation observed by the intelligent patient will cause him to revise his tentative hypothesis: "The doctor has now *proven* that he is *not* both scrupulous and competent—I am never coming back to him again." As my first professor of philosophy, Dean Rieber, of U.C.L.A., probably would have observed, "the peas have rolled off Papa's knife."*

Despite the facile rationalizations of the American Optometric Association, if an optometrist, who practices in a city where all other professional men are located in upstairs offices or clinic buildings, chooses to practice in a downstairs store location, he is engaging in a surreptitious form of advertising, even if he puts venetian blinds over his plate glass windows and reduces the size of the lettering on his exterior sign. It is true that, as Ernest Hutchinson has said, "attitude" is more important than "altitude."† Even my very good friend, Henry Hofstetter, in his magnificent and scholarly new text entitled "Optometric Practice," which should be compulsory reading for every optometrist, has quoted Dr. Hutchinson's remarks with approval. But it is unfortunate that my two very good friends, each of whom has always been the very personification of the highest ideals of the Academy, and who have contributed as much as anyone in making the Academy what it is today, didn't stop to reflect on the implications of what they were approving.

We do not deny their contention that the "substance" is more important than the "shadow," we merely dismiss it as an irrelevant truism. The great danger is not that of confusing the shadow with the substance, but the danger of substituting symbols which only optometrists can understand for the symbols of professionalism which society has already accepted. We do not deny that if we are given a long enough period of time, we might be able to persuade society to redefine the symbols of professionalism. Our point is simply that in today's culture, "altitude" is a symbol of professionalism. If all of the professions were to repudiate the significance of this symbol, society would also. But if optometry alone attempts to repudiate the significance of the symbol, society merely classifies optometry as a non-profession.

Basically, we have no quarrel with the Professional Advancement Program of the American Optometric Association. It has done and is

*One of Dean Rieber's most quoted remarks was "you can protest all you want to about 'Papa' being a gentleman even if he does get mad when the peas roll off his knife, but when you have said that much, you don't have to say any more."
†Hofstetter, Op. Cit., p. 129.

doing a tremendously valuable job in elevating the *standards* of practice of optometry, and what is more important, the *practices* themselves. We can agree that the elevation of *practices* is a slow gradual enterprise, and cannot be accomplished by revolutionary techniques. We cannot agree, however, that the same reservations need to be made concerning the elevation of *standards* or *ideals* of practice. The success of the A.O.A. program proves conclusively that optometrists are ready and willing to conform to the ideals of practice prescribed by the official society of the profession. It therefore becomes increasingly important that the American Optometric Association formulate these ideals without hedging and without compromise, in accordance with the universal patterns and symbols of the professions and society.

A downstairs "professional" office in an "upstairs" community is undeniably more respectable than an undisguised store; and before you climb to the top of a mountain you have to climb to the middle first. But when you get to the middle, if you can persuade yourself that you have already reached the top—you certainly won't climb any further. What the American Optometric Association, Dr. Hutchinson, and Dr. Hofstetter seem to have overlooked is a rather subtle point, perhaps; but almost thirty years ago, at a time when optometry was just beginning to think about becoming a profession some day, the men who founded this Academy revealed a thorough understanding of its significance, and what I have attempted to do in this paper is to restate its meaning pragmatically. As I have already insisted, the intelligent layman does not read the code of ethics of the professional man. He formulates it unconsciously by a reconstruction from the evidence of the actual conduct of the professional men he comes in contact with. Now what about altitude? Oh, yes. In a downstairs community (where all of the professional men are downstairs), the layman does not associate altitude with attitude. How could he? That our founding members were not merely arbitrary or stubborn in their stand is obvious from their exemption of those optometrists, who practice in downstairs communities, from altitude requirements. In an upstairs community, the layman, who at best is not too well versed in the refinements of professional distinctions, reasons unconsciously as follows:

"1. All of the ethical doctors, dentists, lawyers, architects, and engineers whom I know, practice in upstairs offices, do not advertise, and do not sell merchandise, but only their services. They are professional men."

"2. When I buy glasses, I go to an optician, who is more than likely located in a downstairs store, and who advertises, and sells merchandise, usually optical, but not necessarily so. Obviously, he is not

a professional man, but a combination of merchant and skilled tradesman."

How does this same layman classify the optometrist? If all of the optometrists in his town were members of the American Academy, he would be more likely to classify them, even unconsciously, as belonging to a group which he would accept as professional; but suppose all of them were ineligible for Academy membership because they were located in downstairs store-offices acceptable to the American Optometric Association. Since he cannot be expected to have read the A.O.A. Journal, he will not know that he is supposed to classify them as professional men, and he will unconsciously but inevitably group them with the opticians, with whom they seem to be ineradicably confused in his mind. If I could be certain that none of our own members were confused on this point, I would not labor it. But if men like Hutchinson and Hofstetter, whose influence is so widespread through their lectures and their writings, can be so misguided, I believe that it is worth taking the risk of merely elaborating the obvious to make sure that we all understand why we consider altitude to be important.

Perhaps we ought to give up the struggle. If the vast majority of optometrists are going to practice like opticians, how can we expect, with our modest numbers, to make a dent in the public consciousness? The remark I made at our banquet in Philadelphia two years ago, about our members being recognized as professional men not because they are optometrists, but in spite of it,* I believe answers that question. It is because, as individuals, we have tasted professional recognition, that we won't give up the struggle. We have learned, for one thing, how important *altitude* has been in gaining for us the recognition which our patients have granted us. We know that some of our colleagues whose practices differ from ours in hardly more than this one respect, have not gained the recognition which we have. Most of all, we are not giving up the struggle, because we ourselves have already won it, and we know that the battle has been worth while.

Before concluding, permit me first to recapitulate briefly. The foundations of professionalism are found in the codes of ethics of the professions. The foundations of these codes consist of (1) morality rules based on the doctrine of enlightened self-interest, which establish the interests of society as primary, and the special service which is rendered to society by the profession as the highest good of the profession (for optometry, the visual efficiency of the public); and (2) etiquette rules, which serve the various purposes of (a) restraining the members

*American Journal of Optometry and Archives of American Academy of Optometry, Vol. 24, No. 6, June, 1947, p. 289.

from unfair competitive practices in their intra-fraternal dealings with each other; and thereby (b) preserving and elevating the dignity of the profession; and (c) ensuring the individual personal and economic welfare of its members in proportion to their abilities; and thus (d) indirectly promoting the highest ethical good of the profession (in our case, the visual welfare of the public); and (e) indirectly helping the layman to identify the professional man by the uniform he wears, i.e., his conduct.

Codes of ethics are not static, but are revised slowly and gradually to fit changing needs and changing conditions. Inevitably, in any code governing conduct which has operated for a sufficient length of time, certain acts become formalized and conventionalized until they become part of an etiquette ritual with no ethical meaning except for their cultural or historical significance. In everyday etiquette, familiar examples are: shaking hands; raising one's hat; walking on the curb side of the street; etc. Nevertheless, even where the original significance of these polite usages may have been forgotten, they still are important as distinguishing marks of a gentleman. To at least the same degree, scrupulous conformity to the code of etiquette of the professions helps to serve as a distinguishing mark of the professional man.

The Academy can no longer ignore the fact that the teachings of the Professional Advancement Program of the American Optometric Association are being accepted by the overwhelming majority of optometrists as constituting the final word on the definition of professional standards for optometry. If we are willing to accept the minimization of altitude as a defining characteristic of professionalism, *then we should do so*, and modify our qualifications for Academy membership accordingly. If we cannot accept the A.O.A. revision, and I don't see how we could accept it without repudiating our most fundamental Academy principles; then (remembering that it is one of the founding principles of the Academy to foster and promote professional practice) in every council of organized optometry, wherever standards of professionalism are discussed, it is our obligation as Academy members to make the voice of the Academy heard.

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"CLINICAL REFRACTION" BY BORISH

Another excellent textbook on optometry is off the press. The new work, "Clinical Refraction," is the result of years of painstaking work on the part of one of optometry's outstanding practitioners, Dr. Irvin Borish, of Kokomo, Indiana.

While this text assumes that the reader has had some preliminary background in physiological and geometric optics, it includes those theoretical aspects which are pertinent to the topics covered. Essentially, as the title implies, this book is intended for students and the practitioners interested in the practical phases of refraction and allied matters.

Except for formulæ and computations which are necessary and of clinical value, the mathematical treatment is minimized. The style is clear and lucid, with unbiased treatment of controversial subjects. Of particular importance are the excellent up-to-date references following each chapter. So many texts are simply a restatement of what already has been written and contain references which are out of date and un-

available that it is a welcome experience to have a book which, while it does not ignore the basic accomplishments of the authorities of the past, nevertheless presents the most recent authoritative researches which are related to the clinical aspects of refraction. Furthermore, the material presented and the references cited are not one-sided; they represent the best in the fields of ophthalmology, psychology, education and optometry.

Section I (Chapters I-VII) is concerned with the refractive status of the eye: hyperopia, myopia and astigmatism; accommodation and presbyopia; versions, accommodation and convergence; anisometropia and aniseikonia. Borish's definition of terms is comprehensive and concise. The developmental and etiological factors, including biological distribution of ametropia are discussed. Of special interest is the unprejudiced exposition of the various theories on the cause, progression, and treatment of myopia. The treatment of the subject matter in the chapter on anisometropia and aniseikonia succeeds in presenting the salient points on these important anomalies in an easily understood manner.

In Section II (Chapters VIII-XII), the preliminary examinations consisting of history and symptoms, visual acuity, external inspection, ophthalmoscopy, and field charting are discussed intelligently, with many practical suggestions gathered from competent authorities. The chapter on visual acuity is most interesting and instructive. The effect of blur circles, size of pupils, intensity of illumination, age and sex, color, contrast and time, as well as the various commonly used tests for determining visual acuity, clinical considerations and the inclusion of charts for equivalent expressions of visual acuity represent the compilation of a wealth of important information difficult to find in any other single text. The chapters on external and ophthalmoscopic examinations and on field charting constitute well written condensations of current techniques. Candid appraisals of the clinical value of various methods are given with sound reasons.

The subject of refraction is well covered in Section III, with Chapters XIII-XVII devoted to ophthalmometry, retinoscopy, subjective testing, phorometry and dynamic skiametry. The development and basic optical principles of ophthalmometry and retinoscopy are treated briefly and adequately. The technique and the clinical value of these objective tests are explained clearly. Step-by-step procedure is given for the techniques of fogging, the use of astigmatic charts, cross cylinder test, the pinhole disc, stenopaic slit, Scheiner's Disc, the Cobalt Disc, etc. Tests for binocular coordination, accommodation-convergence relationships, fusional and accommodative amplitudes are discussed in the

chapter on phorometry. Also, in this chapter is an excellent evaluation of the assumptions and the clinical significance of the dynamic cross cylinder test. The chapter on dynamic skiametry includes the investigations of Cross, Sheard, Tait, Fry, Pascal and other authorities. It summarizes the various techniques and indicates that recent investigations have revealed very little statistical correlation of many of the assumptions made.

Analysis and prescription are presented in Section IV, which is divided into four chapters, including sources of discomfort, single vision lenses, absorption lenses, bifocals and multifocals. An important contribution is a review of the work of Donders, Landolt, Percival, Sheard, Neumueller, Fry and Hofstetter in recording graphically the limits of clear binocular vision, or what is known as the "Zone of Comfort." These important matters which are the basis of much of the judgment used in prescribing have been neglected in almost all other recent textbooks on refraction. The chapters on lenses alone would make this book well worth the purchase price. Included are the advantages and disadvantages of various forms of single vision and bifocal lenses with which everyone interested in refraction should be familiar. The prismatic effects of anisometropic correction and their treatment is well covered. Also, the types and application of absorption lenses is treated comprehensively.

The final section on monocularity includes chapters on the development and classification of strabismus, strabismometry and other tests, paralytic strabismus, prognosis and treatment. The work of outstanding authorities in ophthalmology and optometry is reviewed and their techniques are compared and appraised with sound clinical judgment.

The five sections of this book[1] cover material that could not be found as well and as authoritatively presented in five or more volumes, each of much greater length than this single text. The author is to be commended for the years of work which must have been put into this arduous task, and he is to be congratulated for bringing together so succinctly, in only 431 pages, the voluminous material that is germane to clinical refraction.

ROBERT E. BANNON

[1]Clinical Refraction. Irvin M. Borish. The Professional Press, Inc. 5 N. Wabash Ave., Chicago 2, Illinois.

CURRENT COMMENTS

Virginia Huck
Editorial Assistant

Optometrists will confer a favor by sending news items of general interest for this department: such as relate to new instruments, clinical techniques, education, visual health and optometric legislation and organization.

ON PROPOSED COMPULSORY HEALTH INSURANCE

Discussion of the Ewing compulsory health insurance plan in this Journal has stirred up a great deal of comment among our readers. Naturally, all of them do not share the *Journal's* viewpoint. Representative of an opposite point of view is that of Dr. Arthur Huttner, East Palestine, Ohio, who sees some advantage in supporting the Ewing plan. Dr. Huttner, in reference to the February editorial, "An Alternative to Compulsory Health Insurance," writes: "I should have been happier had you suggested an extension of the present private insurance schemes, such as Blue Cross or Blue Shield. These at least have the merit that they do work. Their only drawback is their expense and lack of complete coverage. I think, however, that such a program would be more honestly in line with your philosophy than the plan you do propose."

A New Jersey optometrist agrees for the most part with the *Journal*. Dr. William Schumann of Vineland comments:

"It was with great interest that the writer read Virginia Huck's article in the March issue of the *Archives*, 'Observer finds British Health Program Demoralizing.' Enough has come out of Great Britain and New Zealand lately to allow us judgment as to the merit of any plan.

"Essentially any plan is based on the German health scheme, which was the first and is still the broadest of them all. With slight changes, in some cases for the better and in others for worse, they are a copy of the former, modified to the needs of a nation. Depression and the demand of a greater voice in the affairs of government at Bismarck's time led to the social legislation by Bismarck's successors. In other words, this social legislation was at the same time a political pacifier, a situation analogous with America's today.

"As a recipient and worker within the health program as practiced in Germany from 1917 - 1930, I feel qualified to speak about it objectively. It is a known fact that every worker in Germany is insured for sickness, accident, invalidity and old age. The sickness insurance includes also the family. The cost of this is carried two-thirds by the worker, one-third by the employer, while the cost of accident, invalidity and old age was divided equally.

"Administering these benefits was left to the local municipalities, therefore the name, *Ortskrankenkasse*, meaning local health bank. Here again the benefits accruing to the individual varied from *Ort* to *Ort* or locale to locale. This condition is still prevailing. For instance, at present the German optometrists in Duesseldorf get less for their services than those in Dortmund nearby, and for all practical purposes are unable to make a living. It is imperative for the optician or optometrist in Germany to handle field- and opera-glasses, cameras, thermometers, barometers and similar merchandise to make a living.

"Various big industries have their own *Krankenkasse* within a locale. The contribution of the cost is the same while the benefits may vary. In no *Ortskrankenkasse* was it possible for the German optometrist to make eye examinations, while the industrial *Krankenkasse* made its own arrangements. In some cases where, as we would here say we had an "in," it was possible for the examination for glasses to be made by an optometrist. My last place of work in Germany, the City of Leipzig, represents such arrangement. Leipzig has about 850,000 inhabitants and the employees of the streetcars and busses had their own *Krankenkasse*, and through an "in," the owner of the establishment I worked for had all examinations—in this case a rather lucrative arrangement.

"It was imperative for any physician to be placed on the panel, otherwise starve to death, as 85 per cent of the population was in the *Krankenkasse*. To get on the panel a doctor had to wait usually a few months after he had hung out his shingle, and get a practice going. The result was that the young physician wrote out a ticket stating that a patient was unable to work and confined him at home. According to the local benefits the patient received for this time about two-thirds of his prevailing salary. It is needless to say that this was very often misused but the physician built a following.

"As to the benefits accruing out of the system, doctors were allowed to prescribe only the cheapest materials. As today in Britain in some localities, the patient could pay the difference. The optometrist could only give a nickel frame, first with flat lenses, which later was changed to meniscus lenses. Bifocals were very few and were cemented; all others fell outside the plan benefits. The *apothekaries* in Germany are licensed and the number of *apotheken* was regulated towards the number of inhabitants. Only with an increase in population could another *apotheke* be opened up. Optometrists fought against this sort of licensing, which was contemplated for a while. The *apotheken*, too, had to have special permission to hand out certain drugs which did not fall under the plan benefit.

"The optometrists fought a losing battle against the ever increasing demands of the *Krankenkasse* for lower prices, and finally they hired their own opticians and dispensed themselves. All diathermic or other therapeutic treatments were given by the *Krankenkasse*, eliminating physician, dentist, and optometrist. This step is only a logical conclusion of the plan and its implications are shown in Great Britain. It is true that under such a plan we will lead a life devoid of personal initiative, blessed and led by the grace of a government, whose agents change and with it the application of the plan in certain aspects.

"It is further true as brought out again in Britain that the populace at large makes use of the plan by the slightest indisposition. Many ails and ills are of an imaginary sort. This condition will not be remedied as long as the plan is in operation.

"The English government sadly miscalculated the cost of this undertaking, and are looking for additional avenues of revenue. It would be simple to charge the worker and employer more. However, it would be contrary to the promises of the socialistic Labor government. The result will be curtailment of certain benefits, increase of other taxations and a cheapening of the services. It was pointed out already that a greater number of flat lenses can be made for the same price which the fewer meniscus lenses would cost. We see therefore in England that flat lenses must be used in single vision reading glasses, under their program. Out of necessity the condition will be the same in allied health fields, cheaper dentures or certain medications will not be available to the plan patients.

"Out of all these mistakes we must present to our lawmakers and the public at large a program which will be of mutual benefit to all concerned; one which will give us the most in visual or medical care and guarantee the initiative of the practitioner, and the individual care of every patient. It is not enough that we voice our opposition to any plan, or as some groups of optometrists, view it as the opening door for recognition. Most of the time it was the action and practice of optometrists who are now in favor of governmental planning, who obstructed the recognition they desire. Medical practitioners lean towards enlarging the voluntary insurance plan, such as Blue Cross and Blue Shield. As good as that may seem, it is doubtful that we can persuade a great percentage to join this plan. The leadership of the A. O. A. has been reluctant to endorse any kind of a plan, and that is a source of regret, as it cannot rally its membership to concerted action at moment's notice, nor is any enthusiasm for one or the other plan built overnight.

"Another thought might be with the help of industry and the

unions to establish that insurance which will guarantee the utmost freedom for patient and practitioner alike, and in cases where the need arises federal help must be forthcoming as grants-in-aid. It is my opinion that any plan would be best administered at the State level. In this large country of ours the needs of the states vary, and in granting the aid to the states it would be used more to the advantage of all concerned."

Another Journal reader is concerned particularly with maintenance of individual freedom in connection with any proposed health plan. Writes Dr. Ralph E. Wick of Rapid City, South Dakota: "I have noticed in your 'current comments' department, several articles of late concerning socialized medicine. It was my privilege recently to present a short talk over the radio under the title of public health. I am submitting a copy of this talk for your department, largely because it does contain one idea which I think is slightly different, mainly that optometry probably could never have come into existence under a form of socialized medicine."

Following are Dr. Wick's comments over Station KOTA, Rapid City:

"It is difficult to estimate what the democratic system has meant to the health care of the people of the United States. We can be sure, however, that the freedom exercised by the patient to choose his own practitioner has been a vital force in the development of all the essential professions dealing with public health.

"In my own profession of optometry, for example, a remarkable growth has taken place. Sixty years ago there was no organized profession to care for the visual needs of the public. As people began to read more, drive high speed automobiles, and use their eyes in the precision work of modern business offices and industries it became apparent that the need existed for a specialized profession to care for human vision. Only in a democracy could the need for such a profession bring about its existence so quickly. In a dictatorship or any controlled economy it would be necessary for the dictator to decree that such a profession come into existence. In a government controlled system of public health it would probably require an act of Congress or at least an official agreement between several government bureaus to bring about a new profession. It also follows that when any profession, or business for that matter, is no longer necessary for the public welfare, it soon dies out. In such a case no one suffers but the few people still left in that profession. On the other hand, if the government subsidizes any activity to keep it alive when it is no longer necessary, we all suffer in the form of increased taxation for a long period

of time before any relief is obtained.

"It is not my intention to discuss the pros and cons of any particular form of socialized medicine. In passing though, it can be said that most of the arguments advanced for socializing health care can also be given for government control of housing industries, grocery stores and clothing. All of these things are necessary for our very existence but the proper kinds are too expensive for many people to afford. There is no doubt that some changes must be made to avoid financial hardships brought on by excessively high costs of certain diseases and operations. If these changes are not forthcoming in the professions themselves—and very soon—public opinion will undoubtedly force the issue.

"Democracy has worked in all fields of public health by giving us a standard of health and a life span that is the envy of the entire world. It has worked in the profession of optometry by supplying more comfortable and efficient vision to the people of the United States than any other country has been able to approach. It has done this in all the professions by continually lengthening the educational requirements, by attracting men into these professions who put the welfare of each individual patient above all else, and by encouraging research along the lines of greatest interest of the research scientist instead of directing his activities as some dictator would see fit.

"It is my conviction that these high standards of practice have been brought about by you exercising your right as a free citizen in a democracy to select the doctor of your own choice."

REFRESHER COURSES AND CONVENTION OF THE A.O.A.

It's Spring, and time for optometrists to turn their thoughts to conventions, refresher courses, and, to be sure, vacations. Judging from the advance publicity from various convention headquarters and our optometry schools, the vacations can be taken in stride along with some scientific education. Or the education with the vacation, whichever way you wish to put it.

Canadian optometrists are counting on Spring weather to help make the 17th Annual Refresher Course of the Saskatchewan Optometric Association a success. Scheduled for delegates are a golf tournament and barbecue supper in addition to an excellent educational program. Dr. K. B. Stoddard, Dean of the University of California School of Optometry will be the visiting lecturer from the United States this year. He will give five lectures especially prepared to aid the practicing optometrist. Canadian doctors on the program are University of Saskatchewan staff members, B. W. Currie (Ph. D., Professor of

Physics), J. L. Jackson (M. D., Professor of Anatomy), and R. E. Rees, (Ph. D., Associate Professor of Education). Program leaders have set aside one evening for discussion of economic and educational matters of concern to optometry. Registration fees for the refresher course are $10.00 for members of the Saskatchewan Optometric Association, and $20.00 for non-members. According to S. O. A. President W. A. Forsyth, all lectures and demonstrations will be given at the University while exhibits and social affairs will headquarter at the Bessborough Hotel. Reservations should be made for hotel rooms at least two weeks in advance. Further information may be obtained from Mr. Newton C. MacGregor, chairman of the education committee, 311 Canada Building, Saskatoon, Saskatchewan. Dates for the course are May 16-20 inclusive.

The Los Angeles College of Optometry is offering a State board review course for graduates of any approved School of Optometry, June 6 to July 15. This course is especially for optometrists interested in California or other Western State board examinations. An introductory course in statistical analysis and graduate work in advanced optometry, orthoptics, contact lens work opens at the college August 1 and runs through September 9. In addition to members of the regular faculty, the following doctors will teach: Robert Graham, Harry Jankiewicz, Henry W. Hofstetter, Monroe J. Hirsch, and Leslie Scown.

Officials of the school remind prospective applicants that there are excellent beach and mountain resorts within easy reach of the college. Further information may be obtained regarding fees and class schedules by writing directly to the Los Angeles College of Optometry, 950 Jefferson Boulevard, Los Angeles, California.

In New England, A. O. A. members are planning a better-than-ever annual convention to be held in historic Boston, the week of June 26th. "An outstanding educational program, thrilling entertainment, stimulating discussion forums and warm fellowship" await the delegate at the 52nd annual Congress of the A. O. A., according to Dr. Calvin A. Wood, chairman of the General Congress committee. In addition, Boston offers exceptional sight-seeing tours, recreation spots and entertainment, he pointed out. Applications for registration and hotel accommodations should be mailed now to: A. O. A. Convention, Room 322, 6 Beacon Street, Boston 8, Massachusetts.

ANISEIKONIC FORUM

A new organization called the "Aniseikonic Forum" has been formed by visual specialists to take the place of the aniseikonia center formerly operated at the Dartmouth Eye Institute. Dr. Conrad Berens

of New York has accepted the chairmanship of this group which will promote research and study in the field of aniseikonia as well as disseminate information about this visual anomaly to the profession and the public. There has been no central office of information about aniseikonia since the closing of the Dartmouth Eye Institute in June, 1947.

Dr. Leo F. Madigan, Boston, who developed the clinical technique in aniseikonia at Dartmouth will serve as vice chairman of the forum; Dr. Robert E. Bannon, Columbia University, as secretary-treasurer, and Dr. Avery M. Hicks, San Francisco, Dr. Kenneth N. Ogle, Rochester, Minnesota, and Dr. Julius Neumueller, Haddonfield, New Jersey, have been chosen to serve on the advisory committee.

The Aniseikonic Forum was organized with a five-fold purpose:

1. To arrange through a periodic bulletin for the interchange of research developments, clinical experiences, and case reports.

2. To arrange occasional meetings for presentation of new techniques, compilation of clinical experience on new instrumentation, discussion of problem cases and general interchange of ideas.

3. To provide an information center for members of the Forum, the profession and the public.

4. To encourage further research in the field of aniseikonia and the preparation of texts dealing with clinical and research aspects of aniseikonia.

5. To facilitate educational seminars, lectures and demonstrations in the schools, universities, before professional groups and conventions.

Currently, the Forum is working to bring the bibliography of recent literature on aniseikonia and allied subjects up to date. The last bibliography was prepared at the Dartmouth Eye Institute.

The group also is preparing a list of names and addresses of aniseikonic practitioners for referral purposes; studying the new American Optical Company model space-eikonometer, and formulating plans for an aniseikonic seminar at Columbia University.

Last month, it was announced that aniseikonia patients may now be referred to Columbia University for treatment, investigation and measurement.[1]

To date, the work of the forum has been financed by private contributions. The money received so far has been given to Columbia University to defray the expense of a part-time secretary. The University has provided office space, and equipment, but continuance of the

[1]Current Comments. Am. J. Optom. & Arch., Am. Acad. Optom. 26.3.132-133, 1949.

developmental work depends upon further contributions by interested practitioners. Contributions should be sent to the Secretary-Treasurer, Aniseikonic Forum, Columbia University, 433 West 123rd Street, New York, 27.

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NEWS BRIEFS

Dr. Lewis A. Wilks of Pine Bluff, Arkansas spoke at the March graduation exercises at Southern College of Optometry. Forty-eight students received Doctor of Optometry degrees. . . . A recent supplement to Britain's Association of Optical Practitioner's Code of Professional Conduct stresses to British opticians (optometrists) the greater-than-ever need for professionalism under the National Health Service program. Members of the A. O. P. are cautioned: "We recognize only *one class* of patient; therefore there can be no differentiation between those who consult us privately or through the National Health Service."

TRANSACTIONS OF THE AMERICAN ACADEMY OF OPTOMETRY

A department devoted to announcements, reports, appointments, organization data, news, professional problems and ideals, as these relate to the Academy.

NEW MEMBERS OF THE ACADEMY

The following optometrists received their final approval for membership during the first quarter of 1949. The Academy welcomes these new members.

Dr. Frank W. Acker, 711 Bay Cities Building, Santa Monica, California.
Dr. W. D. Amundson, 104 Central Block, Northfield, Minnesota.

BOOK NOTICES AND REVIEWS

Books received are acknowledged by notices in this department. Special selections will be made for more extensive review in the interest of our readers as space permits.

MOTION PICTURE TESTING AND RESEARCH. REPORT NO. 7. Army Air Forces. Aviation Psychology Program, Research Reports. Edited by James J. Gibson (Smith College), 267 pp., 1947. Distributed by the Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C., $1.50.

The research described originated in the effort to use the medium of motion pictures for psychological testing and examining in the Army Air Forces during World War II. While the problems encountered and the results obtained are of interest mainly to psychologists and educators, nevertheless, since many visual phenomena related to visual learning are presented, it is likely that those interested in vision, in general, and orthoptics or visual training, in particular, may find much of value in this report.

Of particular interest to those in the visual sciences are the data and the discussions on discrimination of visual motion and locomotion; perception of space and distance particularly during flight; recognition testing; research on the recognition of aircraft, including the efficacy of rapid flash speeds, reading digits and counting spots with flash presentation; and perception and judgment of aerial space and distance.

Since some of the devices used in the training of aircraft recognition, particularly by means of tachistoscopic exposure, have been employed in orthoptic and vision training, it is of interest to note the results of an experimental investigation which are reported in this book. It was concluded that tachistoscopic training was not as effective as originally contended.

Also interesting is the section dealing with the depth perception and the emphasis on ocular clues. There is evidence that a considerable part of the depth effect in ordinary vision is monocular, rather than binocular, in origin. There is further discussion on the retinal gradient of texture, of the size of similar objects, of binocular disparity, etc. The problem of judging the relative distance of two objects side by side and judgments of absolute distance of a single object are distinguished, as are the judgments of the size of a far object in relation to that of a near object. An experiment is reported which determined the relation between size constancy and distance perception. Also, a theory is expounded for the explanation of the role of retinal motion perspective in aiding in the perception of space from a photograph.

ROBERT E. BANNON.

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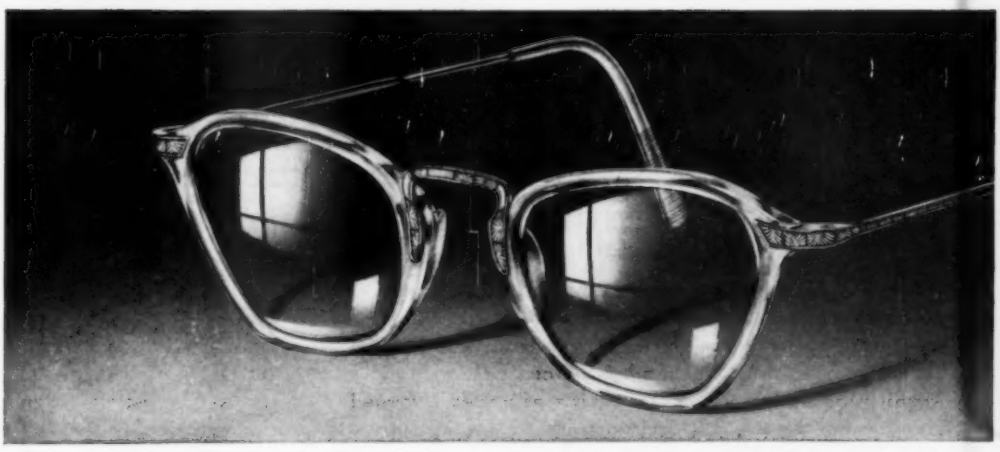
a puzzled patient
make up her mind



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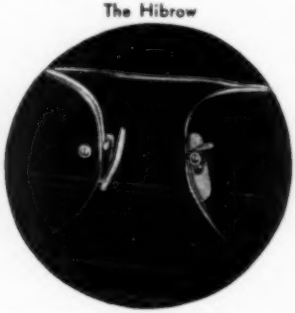

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